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# GENERAL STUDIES

## 2024-2025 | BULLETIN AND ACADEMIC POLICIES

Academic policies are set by the Faculty of Arts and Sciences and the academic administration of individual schools within the Arts and Sciences. Students in the School of General Studies are expected to familiarize themselves with GS policies. Students seeking clarity on academic policies relevant to or beyond those stated on the GS website should consult with their respective GS advisors.

## KEY TO COURSE LISTINGS

Each course number consists of one or two letters denoting the offering university division or target population, as shown in the chart below, followed by four digits denoting the course number (e.g., ENGL GU4103).

For GS students, the most common course prefixes are GS, GU, and UN.

Code Description	
A	Architecture, Planning, and Preservation
AF	School of the Arts (SoA)-Film
AR	School of the Arts (SoA)- open to all SOA (interdisciplinary)
AS	School of the Arts (SoA)- Sound Arts
AT	School of the Arts (SoA)- Theatre
AV	School of the Arts (SoA)- Visual Arts
AW	School of the Arts (SoA)- Writing
BC	Barnard College
CC	Columbia College students only
E	Engineering and Applied Science
GR	Graduate Students
GS	General Studies students only
GU	Undergraduate and Graduate Students
H	Reid Hall Programs in Paris
I	Berlin Consortium for German Studies
OC	For courses taught off the Columbia NYC campus and open to multiple student populations
P	Public Health
PS	School of Professional Studies
S	Summer Session
U	International and Public Affairs
UN	Undergraduate Students

### Z American Language Program

0 Course that cannot be credited toward any degree

In the four-digit course number, the first digit sometimes signifies the level of the course, as follows:

- 1000s: Introductory undergraduate course
- 2000s: Intermediate undergraduate course
- 3000s and 4000s: Advanced undergraduate course
- 5000-9000s: Graduate-level courses

Two consecutive numbers joined by a hyphen show that the course runs through both the fall and spring terms (e.g., HIST UN1091-1092).

The courses offered by each department are arranged in ascending numerical order, with the number of points of academic credit following the title of the course.

## EVENING COURSES

The School of General Studies shares its courses with the other Arts & Sciences divisions of the University. The majority of the courses are day classes, although there are many evening offerings as well. Students can find both introductory and advanced courses offered in the evening, many of which will fulfill core requirements or count toward major requirements. While every Arts & Sciences department offers some evening courses, including sequences of courses in the sciences and some languages, in general it is not possible to fully complete a major or the premedical curriculum by attending evening classes only, and GS students should not count on this as a viable option.

## IDENTIFYING EVENING COURSES

Students can search for courses that meet at particular times on specific week days by using the [course search tool](#) or [Vergil](#).

## NEWLY APPROVED COURSES

Hundreds of new courses are added to the Columbia undergraduate curriculum each year. So that students may be apprised of these offerings, new courses are collected on this page. Students are encouraged to check back periodically to review these new offerings.

## SUMMER 2025 NEWLY APPROVED COURSES

Last update: 3/28/25

### Art History and Archaeology

AHIS S3107	Constructing the Sacred in Ancient Greece and Beyond
AHIS S3448	Theories, Methods, and Experiments in Art and AI
AHIS OC3472	Museums for Paris, 1793–Today
AHIS OC4047	Paris Architecture # Urbanism, 1750–1940

### Anthropology

ANTH S4750	Messiahs, Millennium # Apocalypse
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### Classics

CLCV UN1007	Aristotle and AI: Thinking tools from antiquity to today
GRKM OC3936	Columbia Summer Global Core: The Athens Experience

### Comparative Literature and Society

CPLS OC3456	1968 Paris
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### Earth and Environmental Science

EESC S4921	Paleoceanography
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### East Asian Languages and Cultures

CHNS UN1105	First-Year Chinese I
CHNS UN1106	First-Year Chinese II
CHNS UN2205	Second-Year Chinese I
CHNS UN2206	Second-Year Chinese II
CHNS UN3305	Third-Year Chinese I

### Ecology, Evolution, and Environmental Biology

EEEB OC2201	Venice Ecology and Sustainability
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### Economics

ECON UN2261	INTRO TO ACCOUNTING # FINANCE
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### English and Comparative Literature

ENGL UN3699	Yaddo: Shaping the American Century
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### Film

FILM UN3034	Horror Movies and New York
FILM UN3025	Narrative Design for Games and Interactive Experiences
FILM UN3045	Film Criticism # Story Development
FILM GU4045	Augmented Creativity: practical uses of AI in storytelling, art and design
FILM GU4212	Hollywood in China

### History

HIST UN2679	Atlantic Slave Trade
HIST GU4112	The European Enlightenment
HIST GU4239	War and Peace: Exploring Contemporary Ukraine

HIST GU4699	Medieval Franciscans and their World
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### Human Rights

HRTS GU4260	Human Rights and Populism
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### Music

MUSI UN2335	Film Music
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### Political Science

POLS UN3108	Democracy: Theory # Practice
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### Psychology

PSYC OC2471	Fundamentals of Human Neuropsychology - Summer
PSYC OC2472	Hallucinations: Case Studies in Interdisciplinary Research
PSYC S2830	Clinical Psychology
PSYC S3472	Psychedelic Neuroscience: From Molecules to Minds
PSYC S4655	The science of me, you and us: insights about the nature of wellbeing from basic and clinical research

### Religion

RELI UN3881	Indigenous Peoples in International Law I
RELI UN3771	Indigenous Enlightenments: Indigenous Religious and Political Thought in the Americas: c. 1400-c.1800

### Theatre

THEA S4105	Intro to Playwriting
THEA S4106	Advanced Playwriting
THEA S4120	Introduction to Moment Work
THEA S4122	Dramaturgy # Moment Work
THEA S4315	Performing Protest in the Americas

### Visual Arts

VIAR UN1706	Photo Exhibitions
VIAR UN1707	PhotoBook History

### Writing

WRIT S3043	WHAT IS CREATIVE WRITING FOR? PROSE WRITING IN PARIS
WRIT S4324	MISFITS AND MISANTHROPEs

## SPRING 2025 NEWLY APPROVED COURSES

Last update: 3/28/25

### African- American Studies

AFAS UN3002	Image Matters: Writing With Photographs from the African Diaspora
AFAS UN3004	Introduction to Black Geographies
AFAS UN3005	Introduction to Caribbean Art

AFAS UN3006	Black Archival Theory and Praxis
AFAS GU4001	Revolution and Decolonization in the African Diaspora
AFAS GU4002	Writing in the Presence of Ancestors
<b>American Studies</b>	
AMST UN3939	THE 1980S: A CULTURAL HISTORY
AMST UN3940	Versions of the American Dream
<b>Anthropology</b>	
ANTH UN2972	Unsettling Science: An Introduction to Science, Technology, and Society
ANTH UN3066	African American Anthropology
ANTH UN3851	Theatricality # the Political
ANTH GU4747	Religion in Empire
<b>Art History and Archaeology</b>	
AHIS UN2129	Before Rome: The Art and Architecture of Italy's Peoples in the First Millennium BCE
AHIS UN2804	Mediterranean Artistic Interactions in the Middle Ages and the Early Modern Era
AHIS UN3105	Sacred Spaces # Divine Images Transformed
AHIS UN3438	Land and Landscape
AHIS UN3402	Introduction to Design History
AHIS UN3429	American Architecture: Skyscrapers # Urbanism
AHIS GU4518	Greek Sanctuaries
AHIS GU4534	Pastel and the Enlightenment
AHIS GU4856	Cities of Knowledge: Mediterranean Artistic Interactions
AHIS GU4946	Historicism # Restoration in European Arch.
<b>Classics</b>	
GREK UN3016	Readings from the Greek New Testament
CLCV UN3069	Society and Power in the Hellenistic Age
CLCV UN3090	Isiac cults in contexts; Egyptian cults in the Graeco-Roman world
<b>Cognitive Science</b>	
COGS UN3951	Computational Models of Decision-Making
COGS UN3952	Philosophy of Computing
<b>Comparative Literature and Society</b>	
CPLS UN3931	Life at the End of Life: Palliative Care and Service
CPLS GU4201	Advanced Freud Seminar
CPLS GU4375	The Poetics of Social Forms: The Legacy of Fredric Jameson
CPLS GU4545	Wittgenstein in the Machine

CPLS GU4565	Motherhood and Technology: From Conception to Birth
CLPS GU4876	1001 Nights, Then and Now
<b>Earth and Environmental Sciences</b>	
EESC UN1006	WHAT'S NEW IN EARTH, ENVIRONMENTAL, AND CLIMATE SCIENCE?
<b>East Asian Languages and Cultures</b>	
EAAS UN3720	Women in Vietnamese society, history and literature
EAAS GU4134	Sex, Power, Performance: Gender in Chinese Literature
EAAS GU4150	Childhoods in Modern Japanese Literature
EAAS GU4345	Border Thinking in Modern China
EAAS GU4750	Exploring "The Tale of Genji": Themes, Contexts, and Aesthetics
<b>Ecology, Evolution, and Environmental Biology</b>	
EEEB GU4450	Ethology and the Evolution of Behavior
<b>English and Comparative Literature</b>	
ENGL UN1075	Children's Literature
ENGL UN2792	Early Horror
ENGL UN3437	John Keats
ENGL UN3438	Archives and Afterlives in Postcolonial Texts
ENGL UN3439	Afro-Asian Literary Imaginaries
ENGL UN3432	Places for Poetry
ENGL UN3444	Race, Religion, and Early Modernity
ENGL UN3576	U.S. Poetry in the Expanded Field Since 1960
ENGL UN3781	Lab Lit, Weird Science, and Speculative Fiction
ENGL UN3884	Climate Fictions
ENGL GU4614	Ralph Ellison
CLEN GU4578	Reading the Haitian Revolution
CLEN GU4598	Erasmian Humanism
ENGL GU4885	Writers on Writing: Fictions, Theories, Risks, and Rituals
<b>Center for the Study of Ethnicity and Race</b>	
CSER UN3875	Performances of Race # Disaster
<b>Film</b>	
FILM GU4112	Auteur Study: Jane Campion
FILM GU4311	Radical Film and Media
FILM GU4350	Women's Documentary Across the Globe
FILM GU4925	Documentary Modes
<b>French and Romance Philology</b>	
FREN UN3412	Contemporary French and Francophone Literature: US Goncourt Prize Selection
FREN UN3608	Literature and Painting

FREN OC3609	Literature and Prostitution
FREN UN3721	Female Friendship in Francophone Novels and Cinema
CLFR GU4612	Comics in the World: Graphic Albums # Current Events
CLFR GU4722	Annie Ernaux: Writing as a Knife
FREN GU4842	Radical Enlightenment Women
<b>Germanic Languages</b>	
CLYD UN3500	READINGS IN JEWISH LITERATURE (The Book of Genesis)
GERM UN3991	Advanced Topics in German Literature (Verteufelt human“: Menschlichkeit und Humanität in Philosophie und Literatur)
CLDT GU4000	Learned Women from the Low Countries (and beyond)
CLGR GU4821	Rumor and Media: Technologies, Circulations, and Credence
<b>History</b>	
HIST UN2717	The Ottoman Empire and the West in the 19th Century
HIST UN3049	Provinces of the Roman Empire
HIST UN3297	Between Empire and Nation: Ukraine, 1772-1917
HIST UN3321	Solidarity in the Age of Decolonization
HIST UN3363	Feminist Histories of Gender and Sexuality in Modern Britain
HIST UN3507	A Trans History of the United States
HIST UN3591	One Person, One Vote?
HIST UN3608	Women and Gender in Latin America and the Caribbean
HIST UN3786	History of African Muslims: Timbuktu and Beyond
HIST GU4082	Medieval Religion: definitions and concepts
HIST GU4237	Resources and Regimes: Environmental Histories of Central Europe
HIST GU4239	War and Peace: Exploring Contemporary Ukraine
HIST GU4255	A Global History of East Central Europe Before the Modern Times
HIST GU4279	A Cultural History of the Soviet Century
FRHS GU4354	RACIAL HISTORIES OF EUROPE (15th- 21st Centuries)
HIST GU4379	Ever Closer Union?: Histories of European Integration since 1945
HIST GU4385	Rousseau and the Modern Self
HIST GU4405	The Bible in Early America
HIST GU4439	Harm Reduction and/as Historical Analysis

HIST GU4528	Power, Place, Politics, and Health: Historical Perspectives
HIST GU4695	Urban Waters: ecologies, inequalities, and environmental justice in Latin American cities
HIST GU4716	Imag(in)ing the Ottoman Empire: A visual history, 18th-20th centuries
HIST GU4872	North Korean History, Culture and Politics
<b>Humanities</b>	
HUMA UN3000	Practices in Community Building
<b>Human Rights</b>	
HRTS GU4850	Beyond Human Rights Critique
<b>Jewish Studies</b>	
JWST GU4155	Auteur Study: Steven Spielberg
JWST GU4158	Zionist Thought: Center and Periphery
JWST GU4601	The History of Mizrahi Jews
<b>Latin American and Iberian Cultures</b>	
SPAN UN3894	Law, Literature, and Gender in the Hispanic World
<b>Linguistics</b>	
LING GU4023	Semantics
<b>Nepali</b>	
NEPA UN1102	Elementary Nepali II
<b>Middle Eastern, South Asian, and African Studies</b>	
MDES UN1630	Introduction to South Asia
MDES UN2046	Slavery, Race, Racism: Global South Experiences and Debates
MDES UN3030	Spider-Man and the End of History
MDES GU4220	The Arabic Linguistic Tradition
MDES GU4952	Leaving the Ottoman Empire: Ottoman Americans
<b>Music</b>	
MPP UN1601	Performance Seminar MasterClass
MUSI UN3105	Prescribing the Piano: Music, Medicine # The Body
MUSI UN3216	Piano Literature # Performance: 1900 - Present
MUSI GU4204	Composing for Dance
MUSI GU4215	Modular Sound Synthesis
MUSI GU4438	Music and Global Africa
<b>Philosophy</b>	
PHIL UN3716	TOPICS IN ETHICS
PHIL UN3872	Personal Identity in Parallel Universes
PHIL GU4090	Early Greek Philosophy
PHIL GU4717	Topics in Moral Psychology (Freud and Philosophy)
<b>Physics</b>	
PHYS UN1151	Origins and Meaning: Independent Study



**Political Science**

POLS UN3622	Ethnic Conflict
POLS UN3911	SEMINAR IN POLITICAL THEORY (Liberalism, Community, Culture)
POLS UN3961	INTERNATIONAL POLITICS SEMINAR (Trade, Migration, and Climate Politics)
POLS UN3961	INTERNATIONAL POLITICS SEMINAR (Deterrence and Bargaining)
POLS GU4242	Political Economy of the Public Sector

**Political Science- Applied Mathematics**

PSAM UN3707	Persuasion at scale: causal inference, machine learning, and evidence-based understanding of the information environment
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**Psychology**

PSYC UN1950	Neuroscience Methods: Cells and Circuits
PSYC UN3434	Prenatal Programming
PSYC GU4274	Psychology of Procrastination

**Religion**

RELI UN2101	Religion and the Climate Crisis
RELI UN3107	Psychoanalysis and the 'Eew' Factor

**Sinhala**

SINH UN3102	Literary Sinhala II
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**Slavic Languages**

RUSS UN3107	Russian Through Theater
CLRS GU4039	Chekhov and Others

**Sociology**

SOCI UN2501	THE POLITICS OF MASS INCARCERATION
SOCI UN3943	Life on Mars: Building a New Society in Space
SOCI GU4049	Workshop in Gender and Sexuality II
SOCI GU4125	Carcerality, Law, and Punishment Workshop

**Sustainable Development**

SDEV UN2100	Introduction to Climate Justice
SDEV GU4325	Plants, Animals, and Personhood
SDEV GU4660	Biodiversity and the Climate Crisis
SDEV GU4680	Climate and Sustainable Water Systems

**Women's and Gender Studies**

WMST UN3155	Global Histories of the Trans Present
WMST GU4220	Bodies of Transformation

**Writing**

WRIT UN3039	A PICTURE A THOUSAND WORDS: COMICS AND COLLAGE
WRIT UN3230	INTERACTIVE MEMOIR

WRIT UN3231	AT THE NEW YORKER
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WRIT UN3232	EDITING, REVISING, PITCHING, PUBLISHING
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WRIT UN3326	SURREALISM # PROSE POETRY
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WRIT UN3328	LIVING AT THE MOVIES: THE PERSONA POEM IN FILM AND TV
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**FALL 2024 NEWLY APPROVED COURSES****Last update: 9/27/24****Art History and Archaeology**

AHIS UN2622	Introduction to East Asian Art: China, Japan, and Korea
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AHIS UN3239	Medieval and Renaissance Venice
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AHIS UN3466	AIDS Is Contemporary
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AHIS UN3471	The Harlem Renaissance # Black Modernism
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AHCE W4149	The Roman Art of Engineering: Traditions of Planning, Construction, and Innovation
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AHIS GU4746	Architecture, Labor, Industry, and the (long) "American Century"
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**Anthropology**

ANTH UN3812	Accusing Corpse-forensic trace
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**Astronomy**

ASTR UN3986	ASTROSTATISTICS
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**Chemistry**

CHEM GU4149	Total Synthesis of Natural Products
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**Cherokee**

CHKR UN1101	Elementary Cherokee I
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CHKR UN1102	Elementary Cherokee II
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**Classics**

CLCV UN3016	Celebrity and Politics in the Greek and Roman Worlds
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CLCV UN3535	IDENTITY # SOCIETY AND EGYPT
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CLST GU4515	Connecting Histories: Roman Conquests and Coinage
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**Comparative Literature and Society**

CPLS GU4227	Blood, Guts, and Lancets: Anatomy in Nineteenth-Century Fiction
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CLPS GU4275	TRAUMA AND PLEASURE
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CPLS GU4330	ETHICS OF CARE IN FRENCH AND FRANCOPHONE CINEMA
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**Ecology, Evolution, and Environmental Biology**

EEMB UN3330	Explaining Biodiversity: Niches, Complex Systems, Chaos and Neutral Theory
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**Ethnicity and Race Studies**

CSER UN3523	INTRODUCTION TO LATINX STUDIES
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**Earth and Environmental Sciences**

EESC UN3904	INDEPENDENT RESEARCH IN CLIMATE SYSTEM SCIENCE
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**East Asian Languages and Cultures**

EARL UN3310	The Body and/in Performance: Dance # Drama in Tibet # China
HSEA UN3320	Making in Premodern Japan
KORN GU4103	Korean Language in Contemporary Pop Culture
EAAS GU4534	Medieval Travel Writing
HSEA GU4815	Faith and Empire: Art and Politics in Tibetan Buddhism
HSEA GU4968	Japan 1968: student protest movements in global historical perspective

**English and Comparative Literature**

ENGL UN2100	Drama Before Shakespeare
ENGL UN3475	Melville's Fiction
ENGL UN3477	New Suns: Worlding in Black Speculative Fiction
ENGL UN3485	Black Women Writing the City
ENGL UN3675	Transpacific Personalities: The Personal Essay and Immigrant History in Asian American Literature
ENTA UN3708	Reenactment and Performance in 20th # 21st Centuries
CLEN UN3725	Literary Guides to Living and Dying Well from Plato to Montaigne
CLEN UN3790	Caribbean Radicalisms in New York, 1890-1990
ENGL UN3837	UnLondon: Writing (and Re-Writing) Urban Space
ENGL GU4559	August Wilson
ENGL GU4462	Gender and Resistance in Early Modern Literature
CLEN GU4575	Source Texts of Postcolonial Vision
CLEN GU4777	Conspiracy Theory
CLEN GU4899	Resistance Literature

**Film**

FILM UN2530	Lab in the Video Essay
FILM UN3020	INTERDISCIPLINARY STUDIES
FILM GU4111	Auteur Study: David Lynch and The American Imaginary
FILM GU4945	Contemporary Russian Media

**French**

FREN UN3249	French Through The Visual Arts
FREN UN3557	Politics of the Psyche in Postwar France

FREN UN3725	Asylum/ Asile: Theory and Practice of Asylum Law Through Francophone African Asylum Claims in New York
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FREN GU4022	How to Love: Medieval French and Arabic
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FREN GU4028	French Film Aesthetics
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FREN GU4082	Rebel Literature: Politics and the Novel in the Francophone World (1950-1980)
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**Germanic Languages**

GERM UN2520	Intermediate Conversation
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GERM UN3458	Medical Surreal: Doctor and Patient Narratives
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CLGR UN3458	Netflix Culture
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CLGR GU4271	Orientalism and Empire
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GERM GU4251	Kant with Arendt
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**History**

HIST UN2709	Medieval Middle East
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HIST UN1071	History of Christianity from the Origins to the Reformation
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HIST UN2154	The British Isles and the British Empire, 1485-1815
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HIST UN2851	Making Modern Korea
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HIST UN3328	Neoliberal Britain?
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HIST UN3927	Global Histories of Plants and Empire, c. 1500-1800
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HIST GU4298	Food in Modern East Central Europe: A Cultural and Political History
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HIST GU4435	Democracy and its Technocrats
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HIST GU4527	Topics in U.S. Foreign Relations History
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HIST GU4363	Pascal and the Modern Self
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HIST GU4374	Welfare States and Warfare States, Europe and the United States since c. 1870
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HIST GU4681	The Nahuas Through Their Sources
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HIST GU4721	Archaeology and Heritage in the Ottoman Lands in the Long 19th Century
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HIST GU4736	Ottoman Westernization and Orientalism in the Long 19th Century
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**Human Rights**

HRTS GU4011	Indigenous Rights and Settler Colonialism in North America
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HRTS GU4985	Hum Rights, Activism # US Carceral State
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**Italian**

CLIA UN3024	Nationalism in Theory and History
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CLIA UN3662	FORBIDDEN BOOKS? CENSORSHIP AND THE CIRCULATION OF AMERICAN LITERATURE UNDER FASCISM
<b>Jewish Studies</b>	
JWST UN2155	Music, Sound, and Antisemitism
JWST GU4146	Between Philosophy and Mysticism: Jewish Thought in the Middle Ages
JWST GU4157	Israeli Politics in Times of Turmoil
<b>Latin American and Iberian Cultures</b>	
SPAN UN2104	Intermediate Spanish II: Topics on Climate Discourse
SPAN UN3893	Latin American # Latinx Speculative Fiction in Arts # Media
<b>Middle Eastern, South Asian, and African Studies</b>	
MDES UN1003	Premodern Islamic Worlds
MDES UN2044	Religion and Politics in South Asia
MDES UN3634	Curb Your Enthusiasm: The Global History of Laughter
MDES UN3970	MESAAS Research Capstone
MDES GU4059	Race and Racism in the Global South
MDES GU4060	Reading Marx Historically
MDES GU4655	India after 1947: Democracy and Majoritarianism
MDES GU4825	Indo-Islamic Culture in Literature
<b>Music</b>	
MPP UN1414	Guitar (Popular-Contemporary) Instruction
MUSI UN2010	ROCK
MUSI UN3213	Bach Interpretation for Performers
MUSI UN3326	Genre in Popular Music
MUSI GU4418	Music and Fashion
<b>Philosophy</b>	
PHIL UN3912	SEMINAR (Angels, Demons, and Artificial Intelligence)
<b>Political Science</b>	
POLS UN3124	Gender and Political Theory
POLS UN3630	POLITCS OF INTL ECON RELATIONS
POLS UN3720	RESEARCH DESIGN: SCOPE AND METHODS
POLS UN3951	COMPARATIVE POLITICS SEMINAR (The Comparative Politics of Migration)
POLS UN3961	International Politics Seminar: War and Peace
POLS UN3961	International Politics Seminar: Security, Policy, and Democracy

POLS UN3961 International Politics Seminar: The Art  
and Science of Civil Resistance

<b>Psychology</b>	
PSYC UN3461	Music and Cognitive Neuroscience
PSYC UN3820	Science of Well-Being # Human Potential
PSYC UN3830	Psychology and the Internet
PSYC GU4625	Psychology of Religion
<b>Religion</b>	
RELI UN3020	Science Saves
RELI UN3413	Muslims in the West
RELI GU4377	Islam in the Soviet Union and Successor States
RELI GU4425	Climate, Religion and Colonialism
RELI GU4621	Religion and Media
<b>Slavic Languages</b>	
RUSS UN3106	Voices of (Dis)agreement: Russian Culture In and Outside Russia Today
CLSL GU4029	Bible, Literature, Theory
<b>Sociology</b>	
SOCI UN3986	Race, Discrimination, and Racial Inequalities on Both Sides of the Atlantic
SOCI GU4048	Workshop on Gender # Sexuality I
<b>Sustainable Development</b>	
SDEV GU4501	History of the Climate Crisis
<b>Visual Arts</b>	
VIAR UN2021	POPULAR # HISTORICAL GESTURES: FIGURE DRAWING
<b>Women's and Gender Studies</b>	
WMST UN3152	Queer/Trans Holocaust History
<b>Writing</b>	
WRIT UN3037	BODY # WORD
WRIT UN3038	WORD. ARTWORK. MIRROR. MULTIPLY: THE VISUAL ARTS AS A POETICS OF SENTENCE, LINE, AND FORM
WRIT UN3365	21STC AM POETRY # ITS CONCERNS

## SUMMER 2024 NEWLY APPROVED COURSES

Last update: 9/27/24

### Art History and Archaeology

AHIS OC4032	Visual Storytelling in Renaissance Venice
AHIS S3427	Making Medieval New York
<b>Biological Sciences</b>	

BIOL UN1201	Engineered Mouse Models and Identifying Phenotypes In Vivo
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### English and Comparative Literature

ENGL S3399	Home to Harlem: Literature and Culture of the Harlem Renaissance
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ENGL UN3395	The Athlete in American Imagination
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ENGL UN3748	Modern Western Drama and the History of Acting
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### Film

FILM S4040	US Independent Film
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FILM S4042	Post Production with Resolve
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FILM S4043	Post Production with Avid
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FILM OC4330	Cinema of the Arab World
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### History

HIST OC3136	France and the African Diaspora
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HIST OC3994	The Olympics and the Politics of International Sport
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### Human Rights

HRTS S4010	Indigenous Rights and Settler Colonialism in North America
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HRTS S4015	The UN Human Rights System in the Making
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### Mathematics

MATH GU4041	INTRO MODERN ALGEBRA I
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### Music

MUSI GU4135	
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### Political Science

POLS UN3116	Borders and Immigration
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POLS UN3210	JUDICIAL POLITICS
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POLS UN3919	Seminar in Political Theory
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### Psychology

PSYC S3443	Neuroscience Practicum: Consciousness (Full Title = Summer Practicum in Neuroscience: Next Gen Scholars of Consciousness)
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PSYC S3494	Gene-Environment Interaction and Epigenetics
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PSYC GU4237	Machine Intelligence
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### Visual Arts

VIAR UN1702	INTRO DIGITAL PHOTOGRAPHY
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## SUMMER COURSES

Students may accelerate their progress to the degree by taking required and/or elective courses during Columbia's Summer Term, which runs from late May through mid-August. Given the intensive nature of these courses, and the fact that the summer term includes courses that do not count toward the degree, GS students are urged to choose their summer term classes in consultation with their

GS academic advisors, who will provide advance approval of their summer course selections.

GS students may take a maximum of 15 points for the entire summer term, with no more than nine points in either of the six-week sessions or in overlapping sessions. Students should consult with their departments for specific policies or course restrictions when taking courses to be applied toward the major.

Postbac Premed students who take required lecture courses in the summer are generally advised to take them in the 12-week format rather than the 6-week format. The reason for this recommendation is that the compressed 6-week format is extremely demanding for even the most well-prepared students. For most premedical students, required lecture courses offered in the 12-week format (Physics II, General Chemistry II) are more appropriate. Postbac Premed students must have the approval of their advisor if they wish to enroll in a required lecture course in the 6-week format. Postbac Premed students may take preparatory courses, math courses, and lab courses in either the 12-week or the 6-week format.

## CURRENT LIST OF SUMMER SESSION COURSES

[2024 Summer Session Guidelines.pdf](#) (updated 5/17/24)

## HISTORY AND PHILOSOPHY OF SCIENCE

The Science and Society minor is an interdisciplinary collection of courses for students who wish to explore critical approaches to and societal implications of science, technology, health, and environment. The aim of the minor is to equip students in all fields, whether humanities, social sciences, or STEM disciplines, to critically interact with both new developments and long histories of science and technology, enabling them make sense of and intervene on societal grand challenges on individual, community, and global scales.

The Science and Society minor is informed by the existing field of Science and Technology Studies (STS), an established interdisciplinary field that leverages methods and theories from the social sciences and humanities to interrogate the impacts not only of science and technology on society and culture but also of society and culture on science and technology.

## FACULTY INFORMATION - TO BE UPDATED

## COLLOQUIA, INTERDEPARTMENTAL SEMINARS, AND PROFESSIONAL SCHOOL OFFERINGS

Occasionally, and for a variety of reasons, faculty offer courses outside of the existing structure of Arts and Sciences academic departments. Such courses may be colloquia: team-taught interdisciplinary courses; interdepartmental seminars explicitly offered by two or more academic departments; or undergraduate-specific courses offered by faculty outside of the Arts and Sciences. All of these courses may be counted toward the undergraduate degree, but it is for the faculty of each department or program to determine whether or not they can count toward a major or concentration.

## DEGREE FULFILLMENT THE BACHELOR'S DEGREE

General Studies students earn a Bachelor of Arts degree (BA). The Bachelor of Arts combines breadth of study in a range of subjects and disciplines, represented by the core requirements, with specialization in a major field of study. Whether they major in the sciences, humanities, or social sciences, all undergraduate GS students receive a BA degree.

To qualify for a bachelor's degree, students are required to complete 124 points with a minimum grade point average of 2.0. The 124 points are distributed among three general categories: core requirements, major requirements, and electives. Students may not earn points for the same course twice (with the exception of certain fine arts courses and independent study courses). GS undergraduates are required to complete a major in order to graduate. See [Majors, Minors, and Other Programs of Study](#) for details about individual majors, minors, and special programs.

## THE MAJOR

All undergraduate GS students must fulfill the requirements for a major to qualify for a bachelor's degree from Columbia. The purpose of a major is to provide students with an opportunity to delve deeply into the study of a particular subject, developing expertise and critical thinking through sustained and advanced work. Students may declare their respective majors as early as their first semester at GS provided they have completed at least 45 points toward the degree, with at least 12 points in progress at Columbia. Majors are noted on the Columbia transcript. The declaration

of a minor, concentration, or special program does not fulfill this requirement.

## THE MINOR

While most GS students graduate with one major, some students may opt to pursue a secondary program of study in the form of a minor. Minors are complementary, smaller programs of study that provide students an opportunity to focus some of their elective coursework in a particular discipline of interest. Some of the pedagogical goals of a minor are to:

- Serve as an introduction to a discipline without requiring advanced coursework
- Introduce students to a topic through a variety of academic/intellectual lenses
- Offer an advanced course of study for students who have preexisting foundational knowledge in a particular discipline (i.e., languages, foundational coursework in sciences, etc.)
- Complement major program of study
- Offer students the opportunity to engage in a course of study using an interdisciplinary approach

## Policies Governing Majors and Other Programs of Study

Students are encouraged to consider various fields of study and to become familiar with the requirements for a particular major before filing a major declaration. In most cases, students should begin coursework in the discipline before declaring the major. Faculty members are excellent resources for discussing possible majors. The Director of Undergraduate Studies (DUS) is not only an expert in their field, but also in the programmatic requirements of a particular program of study. They advise students who are considering declaring a program of study in their department, who have declared their program of study in their department, or who are taking courses in their program. Students might seek advice on some of the following questions:

- What are the central questions which drive study in this discipline?
- At the end of my program of study, what type of knowledge or skills can I expect to have acquired?
- What prerequisites will I need to pursue this program of study?
- What types of courses align with my academic preparation?

- What research opportunities are available to me within the department and in the field as an undergraduate?
- How do study abroad opportunities fit into the completion of my program of study?
- What academic and/or professional opportunities are available to me upon completion of this program of study?

Additionally, students may review departmental websites for detailed information on the requirements of the programs of study and courses. Many departments also have informational handouts for students considering programs of study in their departmental offices.

Academic programs offer relevant programming and events for prospective majors during the academic year. Students should plan to attend open houses to obtain more information about various majors from faculty and students in the programs of study. Such open houses are usually held in the spring term but often in the fall as well and are publicized through the GS Weekly newsletter and the [Departmental Open Houses](#) page. Students may also sign up for departmental/center/institute newsletters and listservs, which often provide information on upcoming events, updates on the curriculum, and opportunities to conduct research.

Students eligible to declare a major may do so during designated major declaration periods, typically during October and March. (Please note that a small number of programs require an application process and approval. For more information, please see the Programs Requiring Additional Approval section below.)

Students are expected to meet the requirements for the major as outlined at the time the major is declared. Students who do not complete the major requirements within five years of declaring may be expected to comply with any new requirements that have been subsequently established.

The following rules pertain to all majors; exceptions to any of these rules are noted by individual departments on their official websites:

1. No course with a grade of D will be credited toward the major.
2. No course with the mark of P (Pass) will count toward the major.
3. No more than two courses may overlap with GS core requirements. **Note:** even if a student declares a second major or secondary program of study, the total limit for overlapping courses between any major or secondary program of study and the core is two.
4. Students must check with departments for permission to count summer session classes and courses taken while studying abroad toward the major, minor, or special program.
5. Departments and programs have discretion regarding which, if any, GS-approved transfer credits can be used to fulfill major, minor, or special program requirements.
6. Students must submit all relevant paperwork to a department for consideration of transfer credit towards the major, minor, or special program in the same semester in which the program of study is declared; failure to meet this deadline may result in the loss of eligibility to transfer credit toward the program.
7. At least 18 points of coursework toward the major must be taken at Columbia.
8. Students who have not declared a major prior to completing 90 credits will be placed on registration hold and be subject to an academic warning.

## Double Majors and Other Programs of Study

Most students graduate with one major and use their elective coursework to explore a variety of interests. Some students opt to pursue additional programs of study. GS students have the option to declare a second major, a minor, or a special program.

- Students can declare a maximum of three total programs of study. Students must declare one major but they may not declare more than two majors.
- Students choosing to declare two or more programs of study (major, minor, and/or special program) should have a strong academic record and clear academic reasons for pursuing the additional program(s) of study.
- Students must declare a major program of study and can declare a secondary program at the same time or subsequently. (They may not declare a secondary program of study before declaring a major.)
- Students who wish to pursue multiple programs must declare these programs prior to completing 90 points toward the degree, and must have a minimum GPA of 3.2.
- Students cannot declare two programs owned by the same department. For example, a student may not declare programs in Russian Language and Culture and in Slavic Studies, both of which are owned by the Department of Slavic Languages; similarly, a student may not declare programs in Mathematics and in Applied Mathematics, both of which are owned by the Department of Mathematics. All combined majors (e.g., Economics-Political Science) will be considered as owned by both offering units, so that a student may not, for example, major in both Political Science and Economics-Political Science nor can they major in both



Psychology and Neuroscience & Behavior (which is co-owned by the Departments of Psychology and Biological Sciences).

### For Students Who Matriculated Prior to Fall 2024

Students who matriculated prior to Fall 2024 may have already declared or intend to declare a concentration. These programs of study are being phased out of the curriculum for GS students in the 2024-25 academic year. Students who matriculated prior to Fall 2024 will still be able to graduate with these concentrations and declare concentrations if they so choose, but they must do so by May 2025. After that point, GS students will no longer be able to declare concentrations. Students who matriculate in Fall 2024 and thereafter may not declare concentrations.

Students who matriculated prior to Fall 2024 may have already declared or intend to declare a special concentration. Special concentrations that were developed in partnership with Columbia's professional schools or affiliated programs, e.g., in Business Management and Public Health, will be renamed special programs starting in Fall 2024. Other special concentrations will be phased out and, in many cases, minors in these areas will be offered instead. However, as with the concentration, students who matriculated prior to Fall 2024 will still have the option to declare special concentrations in these areas but must do so by May 2025. Students who matriculate in Fall 2024 and thereafter may not declare special concentrations.

### Double Counting

Students who declare two programs may, in some cases, overlap requirements for the two programs. There are three scenarios in which students may double-count program requirements; students may take advantage of any or all of these scenarios:

- If two programs both require the same coursework to teach fundamental skills needed for the field, those courses may be applied to both programs; specifically: (1) elementary and intermediate foreign language courses, (2) the calculus sequence (I through IV, or Honors A and B), (3) introductory courses in Statistics (STAT UN1101 INTRODUCTION TO STATISTICS or STAT UN1201 CALC-BASED INTRO TO STATISTICS), and (4) the introductory course in computer programming (COMS W1004 Introduction to Computer Science and Programming in Java).
- Students may also apply a maximum of two courses to both programs, if each course is already approved toward the fulfillment of the student's two declared programs. Offering departments, institutes, or centers may choose to restrict the double-counting of particular courses, and such restrictions cannot be appealed.
- As with students with one declared program, the maximum number of courses students with two

declared programs may overlap to the Core is two. Students may not overlap core courses with both of their programs (triple-counting).

### Transfer Credit Toward the Major and Other Programs of Study

The DUS in each department is authorized to accept GS-approved transfer credits toward the major, minor, and/or special program, as they deem appropriate. Students must check individual department policies concerning transfer credits. Credits from other institutions of higher education do not automatically transfer—and in some cases are not approved—toward the Columbia major or other Columbia programs of study, although they may count as electives or core requirements.

It is the student's responsibility to discuss with the DUS the possibility of counting transfer credits toward the major, minor, or special programs and to provide the department with all required documents. When reviewing transfer credits the DUS requires copies of official transcripts from the other institutions and often the syllabi for the courses in question (supplied by the student).

**Note:** As part of the transfer course evaluation, students must submit all relevant paperwork to the departments in the same semester in which the major or concentration is declared; failure to meet this deadline may result in the loss of eligibility for transfer credit toward the major or secondary program of study.

### DECLARING A MAJOR OR OTHER PROGRAMS OF STUDY

From anthropology to astronomy, from economics to ethnicity and race studies, Columbia offers over eighty majors across foundational disciplines in the liberal arts. We encourage you to explore the many fields of study in the Arts and Sciences. Whichever department you choose as your academic home, you will have the opportunity to develop your critical thinking, refine your research skills, challenge your intellectual presuppositions, and expand your cultural horizons. Many departments also offer a minor. See [Majors, Minors, and Other Programs of Study](#) for more information about majors, minors, and other programs of study and their requirements.

### Beginning the Major Declaration Process

GS students may declare a major, and minor or special program during designated periods. Please refer to the [GS Academic Calendar](#) for specific dates.

**Note:** Certain departments require additional approval beyond the online declaration form. For more information, see "Programs Requiring Additional Approval" below.



## Policies Governing Major Declaration

Students should declare a major after completing 45 points of coursework toward the degree. Students must formally declare a major program before completing 90 points towards the degree; double-majors or major and secondary program of study must be declared prior to completing 90 points. Students who matriculate with at least 45 transfer credits may declare their respective majors in their first term at GS as long as they have 12 points in progress.

Before declaring a major, students should read the information on majors and other programs of study on this page in order to understand the choices and policies relevant to these academic programs. Students may also consult with GS academic advisors, faculty members, department websites, and the department descriptions on the GS website when deciding on a major.

## Criteria for Declaring a Major

In order to declare a major students must meet the following criteria:

- Enrollment in at least one semester at GS with a minimum of 12 points completed or in progress
- Completion of at least 45 points toward the bachelor's degree (including transfer credit)
- Regular and satisfactory progress toward fulfilling the GS core requirements

Students who have completed 90 or more cumulative points without a major on record will be placed on registration hold and may receive an academic warning. Additionally, students who wish to make any changes to their declared major and/or secondary program of study must consult with their academic advisor.

## Using the Online Major Declaration System

The [online major declaration system](#) will be available on the first day of each major declaration period.

Students who use the system must declare at least one major and are limited to a maximum of two program selections (the second choice of program may be either a major or a secondary program of study).

Students will receive an email confirming their academic program and providing information about their department's practice for advising new majors.

Students with questions about declaring a major, or who experience any technical difficulties with the online major declaration system, should email [gsmajordeclaration@columbia.edu](mailto:gsmajordeclaration@columbia.edu).

## Programs Requiring Additional Approval

Students selecting a major from any of the departments listed below must complete the [GS Electronic Major Declaration](#)

[Form](#) and obtain departmental approval (for contacts and additional information, please click on the departmental links listed below). Once approval has been granted, students should email the approval confirmation to their respective advisors to finalize the major declaration process.

- [Business Management](#) (special program): [More information](#)
- [Education Studies](#) (special program): In addition to using the online major declaration system, student must also complete [this application](#). Please see [this page](#) for updated information.
- [Comparative Literature and Society](#) (Heyman Center): [Application](#)
- [Medical Humanities](#) (ICLS): [Application](#)

Before requesting approval from the departmental advisor, students should create a plan of study based on the program's prerequisites, requirements, and course offerings, and bring this plan to the meeting with the DUS.

## Frequently Asked Questions

### Can I take courses that may count toward my major prior to declaring the major?

Many students enroll in courses that will count toward their major prior to officially declaring. This is a good way to receive an introduction to a major and to get an early start on some of the major requirements. However, students beginning major coursework before meeting with a departmental advisor should be aware of the following:

1. Most departments do not allow a student to count toward the major or secondary program courses in which the final grade earned is a "D" or a "P". (Exceptions are noted in departmental guidelines for the major.)
2. Some Columbia departments have restrictions on the number or kind of Barnard courses that will count toward the Columbia major, minor, or special program.
3. Some departments, like Economics, will not count courses taken out of sequence.
4. When in doubt, check the department website.

### What if I cannot decide among several different options?

Students are urged to schedule an advising appointment with their GS advisor to discuss their interests and options. GS advisors can help students navigate their many questions and options when exploring possible majors. Students are also encouraged to consult with peer advisors, fellow students, and graduate students for advice. However, the most reliable resources for major advising are offered by the academic programs themselves. Students are strongly advised to meet with the Director of Undergraduate Studies or other designated faculty member to review major requirements. Students should also review program websites often. Most departments and programs host open houses for potential majors during February and March; this

information is provided in the GS Weekly newsletters and published on the [Departmental Open Houses page](#).

For tips on exploring majors and how a major may relate to a future career, visit the [Career Exploration](#) page.

#### **What if I am interested in a minor or special program?**

Students interested in declaring two or three programs should discuss the viability of this academic plan with their GS advisors. Secondary programs of study are optional but, if pursued, should be declared. Students who wish to declare a minor or special program must do so (along with their major declaration) before completing 90 points of coursework toward the degree. Prior to declaring a secondary program of study, students must declare (or have declared) a major. In some cases, students who have attempted two majors may choose, later in the process, to change the second major to a minor, if that program offers such an option.

#### **What if I want to pursue a double major?**

Students interested in declaring two majors should discuss the viability of this academic plan with their respective GS advisors. Students may also consider a minor in one area and a major in the other. Students who are interested in double-majoring must declare both majors before completing 90 points toward the degree; exceptions to this rule may be made if the student has already made significant progress toward completing one or both majors prior to official declaration.

#### **What happens if I do not declare a major?**

Students who do not declare a major by the time they have earned 90 points toward the degree will be placed on registration hold.

#### **What if I want to change my major, minor, or special program after one or both have been declared?**

Students should schedule an appointment with their GS advisor to discuss the reasons for any change in their academic plans and declared program(s) of study. The student and advisor will then complete the necessary paperwork to make such program adjustments. Students normally are not permitted to declare a new major after earning more than 90 points toward the degree; exceptions can be made for rare and compelling reasons. Students should follow a similar process for changing or dropping a minor or special program.

#### **Can any of my transfer credits count toward my major?**

1. Each department has the discretion to count GS-approved transfer credits toward the major. Approval by GS of transfer credit toward the degree does not mean that this credit will automatically count toward the major.
2. At least 18 points toward the major must be taken at Columbia.
3. Students should consult with the Director of Undergraduate Studies (DUS) about which transfer

courses may count toward the major departmental requirements.

4. Directors of Undergraduate Studies usually require transcripts and syllabi to make decisions about whether transfer credits will count toward the major. Departments and programs typically limit the number of transfer courses they accept. The majority of requirements for the major or secondary program should be fulfilled through coursework taken at Columbia.

#### **Can courses taken as part of study abroad count toward the major, minor, or special program?**

Students who receive permission by GS to study abroad must obtain official approval from their program for any transfer courses to be counted toward the major, minor, or special program.

#### **Can summer term courses count toward the major, minor, or special program?**

Many departments have limits and restrictions regarding Columbia summer courses and the major and secondary programs of study. Students are strongly advised to check with their departments on such policies.

Any other exemptions to the above rules are clearly articulated on the GS website or on departmental websites.

## **ELECTIVES**

### **Professional Courses**

GS students are permitted up to four courses of professional studies coursework toward their GS degrees. "Professional studies" include graduate-level courses in law, business, journalism, or any of Columbia's other professional schools, as well as any comparable courses clearly professional in orientation. [Undergraduate cross-registration](#) in courses offered by Columbia's graduate and professional schools is restricted and requires special approval. Students registering for courses at Barnard, SEAS, or in the graduate or professional schools should be aware that such courses may be subject to registration policies specific to the program offering them and may present unfamiliar academic challenges.

GS students are not allowed to count professional courses in any of the professional studies programs offered through Columbia's School of Professional Studies toward the degree. Rare exceptions to this rule exist when a course is listed as an approved part of a student's major or secondary program of study (for example, Sustainable Development). Students are strongly encouraged to discuss such courses with their GS academic advisor prior to registering.

Any professional course that is listed or cross-listed as an undergraduate course in business, public health, international and public affairs, journalism, social work, or within a Columbia Arts and Sciences department is excluded from the four course limit. Any course approved by the major

department/program to count for a major requirement will likewise be excluded.

## Physical Education Courses

The Physical Education (P.E.) Department offers a variety of courses in the areas of aquatics, dance, fitness, martial arts, individual and dual “lifetime” sports, team sports, and outdoor education which are available for academic credit. Since P.E. is a requirement for undergraduates in Columbia College and the School of Engineering and Applied Science, priority is given to CC and SEAS students when registering for P.E. classes. If space is available, undergraduate General Studies students are permitted to take courses in the Physical Education academic credit program. The grading in all physical education courses is Pass/Fail. Students who fulfill the attendance and participation requirement receive a Pass.

Normally students may take only one P.E. course per semester; enrollment in more than one P.E. course per semester requires the approval of the Director of Physical Education Programs, to whom students should submit a petition. GS students may count up to two points of Physical Education toward the degree requirements.

## Dance Technique Courses

A maximum of six (6) points of dance technique courses may count to the degree for GS non-dance majors. GS students registering for a dance technique class must register for at least one point. GS students may not register for a 0-point dance technique class.

## Non-Degree Credit-bearing Courses

Certain courses will specify whether course credit may be applied to the degree. In cases where course credit may not count to the degree, students must ensure that they have sufficient credits towards the Bachelor's Degree by the time they apply for graduation. For example: credit from **ECON GU 4995** Research Course does not count to the Columbia degree.

## Independent Study Courses

Students may count no more than 12 points of independent study toward the degree, and may register for no more than one independent study per term. If a student wishes to undertake an independent study program involving more points than the number permitted, he or she must have the approval of the Director of Undergraduate Studies and the GS Committee on Academic Standing.

# THE CORE

## THE CORE REQUIREMENTS

When today's GS students enroll in Core courses, they know they are taking part in one of the University's longest standing educational traditions. With courses focusing on philosophical inquiry, artistic expression, and scientific investigation, the Core transcends disciplinary boundaries and asks students to pursue themes across national frontiers and historical epochs. It provides the foundation for a traditional liberal arts degree, assuring that students develop their critical and analytical skills by exposing them to a broad range of requirements from multiple disciplines. Flexibility within the Core allows students to choose from several departments to fulfill specified core requirements in science, literature, humanities, foreign language, quantitative reasoning, and social sciences, thereby encouraging them to explore new areas of inquiry, develop their intellectual interests, and situate their knowledge within traditions of Western and global thought.

## GENERAL GUIDELINES

- Only courses of 3 or more points taken for a letter grade can fulfill core requirements.
- Courses used to satisfy a core requirement must be completed with a letter grade of D or above; courses graded “Pass” do not fulfill core requirements.
- Independent study cannot be used to fulfill a core requirement.
- AP credit cannot be used to fulfill a core requirement, except for foreign languages.
- GS Academic Advisors determine whether a transfer course satisfies a core requirement. For more details about transfer credit toward the Core Curriculum, visit the [Transfer Credit](#) page.
- GS Academic Advisors must approve all courses, including summer-term courses, used to fulfill a core requirement.
- No single course may be used to satisfy more than one core requirement, with the following exceptions:
  - FRONTIERS OF SCIENCE (SCNC CC1000)
  - Foundations of Science (SCNC UN1212)
  - SYMBOLIC LOGIC (PHIL UN3411)
- Courses in computer science, mathematics, and statistics may be used to fulfill both the science and quantitative reasoning requirements
- Students may count two courses from their major department toward the fulfillment of the core requirements; the limit on overlaps is two, even if a student is a double major. Courses counted toward a departmental concentration may simultaneously fulfill core requirements as long as the total number of

overlapping classes from the major and/or concentration counted to the core does not exceed two.

- No more than two courses from any one department may be used to fulfill core requirements.
- Students must take at least one course toward fulfillment of core requirements each semester until the core requirements are completed.
- Students may not drop the University Writing, Contemporary Civilization, Literature, Art, or Music Humanities courses after the end of the Change of Program Period without a special petition to the GS Committee on Academic Standing. Students who wish to discuss the petition process should consult their GS advisor. Students will be billed for courses dropped after the Change of Program Period deadline—the second Friday of each semester—at the [full-tuition rate](#).

## Resources on The Core

[Core Requirements Checklist](#)

[The Core Pre-Summer 2012](#)

[Distribution Requirements Before 2003](#)

## WRITING

University Writing (GS1010) is required of all GS students in their first year as it facilitates students' entry into the intellectual life of Columbia by helping them become more capable and independent academic readers and writers. With its small section size and emphasis on the writing process, revision, critical analysis, collaboration, and research, the course provides an occasion for students to develop academic habits and skills important to their success in future courses. Students learn how to formulate arguments, support them with evidence, and set them down in clear and persuasive prose.

In planning their first semesters of study at Columbia, each GS student should start by choosing a section of University Writing that fits their schedule. Themed sections are designated by the unique section numbers outlined below.

American Language Program (ALP) students must score a 10 on the ALP Essay Exam or earn a score of B- or higher in Advanced Academic Writing for International Students (ALP 9) prior to registering for University Writing.

### Courses of Instruction (may vary by semester)

- *Sections below 100: [UW: Contemporary Essays, GS1010.0xx](#)*
- *Sections in the 100s: [UW: Readings in American Studies, GS1010.1xx](#)*
- *Sections in the 200s: [UW: Readings in Gender and Sexuality, GS1010.2xx](#)*
- *Sections in the 300s: [UW: Readings in Sustainable Development, GS1010.3xx](#)*

- *Sections in the 400s: [UW: Readings in Human Rights, GS1010.4xx](#)*
- *Sections in the 500s: [UW: Readings in Data Sciences and Engineering, GS1010.5xx](#)*
- *Sections in the 600s: [UW: Readings in Medical Humanities, GS 1010.6xx](#)*
- *Sections in the 900s: [University Writing for International Students, GS1010.9xx](#) (special permission required)*

## LITERATURE/ HUMANITIES

Courses in the humanities immerse students in literature, language, and culture, and explore the meaning of humanity across time and place. All GS students must have two courses in this area, with at least one course specifically in literature. GS students may elect to take the two-semester Columbia Core sequence in Masterpieces of Western Literature and Philosophy, [HUMA GS1001-HUMA GS1002](#) (commonly known as "Literature Humanities" or "Lit Hum"), to fulfill the literature and humanities requirements.

The acclaimed Literature Humanities core sequence is designed to enhance students' understanding of main lines of literary and philosophical development that have shaped western thought for nearly three millennia. Much more than a survey of great books, Lit Hum encourages students to become critical readers of the literary past we have inherited. Although most of our Lit Hum works (and the cultures they represent) are remote from us, we nonetheless learn something about ourselves in struggling to appreciate and understand them. Why did these works cause previous generations to value them so highly? In what ways are our authors in conversation with each other? How are these books relevant to our lives? In the end, what do we gain from them? These questions offer just a sample of the kinds of provocation that Lit Hum is meant to arouse. Students should not expect Lit Hum to teach them what these texts are about. Rather, it asks students to join a small group of classmates to raise questions and debate answers. Lit Hum seminars should fascinate, delight, and confound. Our hope is that students will return to these books, their beauty, and the profound questions they raise over the course of their lives.

This year-long course is particularly recommended for students who are planning to major in English literature or philosophy. It is required for students entering with under 30 transfer credits in summer 2020 and after who have not already fulfilled these requirements through transfer credits. (The full course is required for students without transfer credits in the humanities, and one term is required for students with three or more transfer credits in the humanities.) It is recommended, but not required, that students take HUMA GS1001-HUMA GS1002 sequentially. Interested students are encouraged to refer to the 2024-2025



Masterpieces of Western Literature and Philosophy [reading list](#) for more information.

## Literature Requirement

All GS students must take a literature course at Columbia. To fulfill the literature requirement, a course must focus on the study of poetry, fiction, drama, or related genres. Typically, such courses include the offerings from the Columbia Department of English and Comparative Literature, courses on literatures in translation, and/or literature courses in languages other than English at the 3000 level or above. Students may also fulfill the requirement by taking one semester of Literature Humanities. Courses that focus primarily on literary theory, film, music, creative writing, language instruction, or other non-literary interdisciplinary topics do not count for the literature requirement.

## Humanities Requirement

Humanities courses offer ways to understand the development of cultures and how the human experience is expressed. A course from one of the following departments or interdisciplinary programs may count towards the humanities requirement. In language departments, only courses at the 3000 level or above, excluding courses focused on language instruction, may apply.

- Archaeology
- Architecture
- Art History and Archaeology
- Classics
- English and Comparative Literature
- Film Studies
- French
- Germanic Languages
- History\*
- Italian
- Latin American and Iberian Cultures
- Linguistics
- Music
- Philosophy
- Religion
- Slavic Languages

\*Courses from the Department of History may be counted toward the social science or the humanities requirement, but in no case may more than two courses from one department be used to fulfill Core requirements

## Interdisciplinary Programs

The following interdisciplinary programs offer courses in both humanities and social sciences. GS advisors must determine the appropriate category for a course when taken to satisfy a Core requirement.

- African-American Studies
- American Studies
- Ethnicity and Race Studies
- Comparative Literature and Society
- East Asian Languages and Cultures
- Hispanic Studies
- Human Rights
- Jewish Studies
- Latin American and Caribbean Studies
- Linguistics
- Medicine, Literature, and Society
- Middle Eastern, South Asian, and African Studies
- Women's and Gender Studies

**Note:** Only the first semester of Contemporary Civilization may be applied to either the humanities requirement or the social science requirement (but not both). The second semester may only be applied to the social science requirement

# FOREIGN LANGUAGE

The language requirement prepares students to be tomorrow's conscientious and informed citizens. Knowledge of another's language and literature is an important way to begin to know a country and people. The study of a language:

1. Sensitizes students to world cultures, simultaneously making them aware of their own culture within that context;
2. Introduces students to the differences in structure, grammar, and syntax that distinguish two languages, and to the intimate links between language and cultural meaning; and
3. Contributes to the development of students' critical, analytical, and writing skills.

The Core requires that all candidates for the bachelor's degree demonstrate competence in a second language at or beyond the intermediate level. In order to achieve this level of fluency and encourage more advanced language study, students are expected to reach intermediate-level proficiency by the time they have reached senior standing. Intermediate-level proficiency in a foreign language is assessed in one of the following ways:

- An appropriate score on the SAT II subject test or Advanced Placement test, taken before matriculation to GS, as determined by relevant departments for specific languages
- Demonstrating intermediate-level competence on the language placement test administered by relevant departments or programs. Language placement tests must be taken within the first two semesters of study at GS,



or, in cases where a student undertakes language study as part of a Columbia-approved study abroad program, at the beginning of the next term of enrollment after returning from study abroad.

- Approved transfer credits in foreign language study showing intermediate-level proficiency (usually two years of study)
- Approved transfer credit in foreign language showing intermediate-level proficiency (must also have a score of 6 or 7 at the Higher Level of the International Baccalaureate exam or a grade of C or better for the A-level results)
- The satisfactory completion of the intermediate level of a language sequence at Columbia, as determined by the relevant department (the fourth term of a language, usually denoted as course number 1202; please visit the website of the language department for details)
- Completing secondary education in another country in a language other than English

Fluent speakers of languages other than English must take a language placement test within two semesters of matriculating at GS to demonstrate their language proficiency. If a placement test in a particular language is not available at Columbia, students should speak with their respective GS advisors about alternative testing arrangements. Students diagnosed with a language learning disability must register with the [Office of Disability Services](#) in order to be considered for an accommodation for the foreign language requirement.

Students should speak with their GS advisors soon after matriculating at GS to discuss how they will satisfy this requirement. Because the language requirement may take four semesters to fulfill, students who have not satisfied the requirement by placement test, AP score, or transfer credit are required to begin their language study no later than their second year at GS, and to continue enrollment in language courses each semester until the requirement has been met.

Students interested in study abroad may also begin or complete their core foreign language study in numerous summer study abroad foreign language immersion programs.

## ART HUMANITIES

Embracing architecture, sculpture, and painting, the Art Humanities core courses teach students how to look at, think about, and engage in critical discussion of the visual arts. Frequent visits to New York's museums, private collections, and architectural sites bring students face to face with many of the world's most celebrated artworks. Students learn to respond intelligently to a variety of artistic genres by developing analytical skills and a conceptual framework for interpretation.

GS students must fulfill the Art Humanities requirement by taking one of the following:

- [HUMA UN1121](#) Masterpieces of Western Art
- [AHUM UN2604](#) Art In China, Japan, and Korea
- [AHUM UN2901](#) Masterpieces of Indian Art and Architecture
- [AHUM UN2800](#) Arts of Islam: The First Formative Centuries (circa 700-1000)

**Note:** If the art humanities requirement is fulfilled with Masterpieces of Western Art (UN1121), students should not take Barnard Art History 1001 or 1002, as this would constitute a duplication of coursework and thus not count toward the GS degree.

### Exemption from the Art Humanities Requirement

All Columbia College and General Studies students are required to take Art Humanities. In limited circumstances, however, students may be eligible for an exemption from this requirement.

Students requesting an exemption must have completed at least four semester-length, college-level Art History courses with a grade of C or higher. (Please note that visual arts courses do not qualify.) Coursework must cover multiple historical periods, with at least one course on art of the Renaissance era (or an earlier era) and one course on art of a post-Renaissance era.

Students who meet these requirements should contact their GS advisor for assistance in submitting to the Center for the Core Curriculum a transcript of previous coursework, a statement explaining why the exemption is requested, and copies of the syllabi for all Art History courses completed. The exemption request must be made during the student's first semester of enrollment at Columbia during the Core petition period, typically the first week of classes.

## MUSIC HUMANITIES

The goal of Music Humanities is to awaken and encourage active, critical, and comparative listening practices, to provide tools to respond verbally to a variety of musical idioms, and to create engagement with the debates about the character and purposes of music that have occupied composers and musical thinkers since ancient times. By listening to recordings and attending live performances in New York's famous concert venues, students gain exposure to a wide range of forms.

GS students must fulfill the music humanities requirement by taking one of the following:

- Music Humanities (HUMA UN1123)
- MUSIC IN EAST ASIA (AHMM UN3320)
- MUSICS OF INDIA # WEST ASIA (AHMM UN3321)

## Exemption from the Music Humanities Requirement

Although all Columbia students are required to take Music Humanities, there are some students who may obtain an exemption by filing a course substitution request. Although rare, exemption from music humanities may be obtained by passing an exemption exam.

### Exemption Exam

The music humanities exemption exam is offered on the first Friday of the fall semester by the Music Department (621 Dodge Hall). Students who matriculate in the spring or summer should take the exam in the following fall term. Students may take the exam only once during their first year at Columbia. If they do not pass the exam, they must enroll in a section of Music Humanities.

### Course Substitution

In addition to the exemption exam, students with approved transfer credit have the option of requesting exemption on the basis of a similar music course passed with a grade of B or higher at another college or university. This exemption must be requested during the student's first semester at Columbia. Petitions submitted in subsequent semesters will not be considered by the Core Curriculum Office. Students should contact their GS advisor for assistance in submitting a petition.

## GLOBAL CORE

The Global Core requirement asks students to engage directly with the variety of civilizations and the diversity of traditions that, along with the West, have formed the world and continue to interact in it today. Courses in the Global Core typically explore the cultures of Africa, Asia, the Americas, and the Middle East in an historical context. These courses are organized around a set of primary materials produced in these traditions and may draw from texts or other forms of media, as well as from oral sources or performance, broadly defined.

Global Core courses fall into two categories, and can be, on occasion, a hybrid of the two types: those with a comparative, multidisciplinary, or interdisciplinary focus on specific cultures or civilizations, tracing their existence across a significant span of time, and may include Europe and/or the U.S.; and those that address a common theme or set of analytic questions comparatively (and may include Europe and the U.S.). The Global Core requirement consists of courses that examine areas not the primary focus of Literature Humanities and Contemporary Civilization and

that, like other Core courses, are broadly introductory, interdisciplinary, and temporally and/or spatially expansive.

All GS students must complete two courses from the List of Approved Global Core Courses for a letter grade. Columbia students who study abroad in an approved program and who take a course that fulfills the aims of the Global Core may [petition to have the course count toward the Global Core requirement](#). For more information on the petition process, the petition application, and specific deadlines, please refer to the relevant section of the [GS Study Abroad page](#).

## GLOBAL CORE NAVIGATOR

The [Global Core Navigator](#) is a sortable list which allows students to search for approved Global Core courses based on academic approach, region, temporal period, and academic department.

### Fall 2025

Last update: 3/28/25

#### African- American Studies

AFAS UN1001	INTRO TO AFRICAN-AMER STUDIES
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#### Classics

CLCV UN3059	WORLDS OF ALEXANDER THE GREAT
CLGM GU4600	Multilingual America: Translation, Migration, Gender

#### Center for the Study of Ethnicity and Race

CSER UN3926	LATIN MUSIC AND IDENTITY
CSER UN3928	COLONIZATION/ DECOLONIZATION

#### Committee on Global Thought

CGTH UN3402	YOUTH-INTERCONNECTED WRLD
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#### Dance

DNCE BC3567	DANCES OF INDIA
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#### East Asian Languages and Culture

ASCE UN1367	INTRO EA CIV: VIETNAM
AHUM UN1400	COLLOQUIUM ON MAJOR TEXTS
EAAS UN3322	EAST ASIAN CINEMA
AHUM UN3830	COLL ON MODERN EAST ASIA TEXTS

#### History

HIST UN2618	THE MODERN CARIBBEAN
HIST UN2719	HISTORY OF THE MOD MIDDLE EAST
HIST UN2764	EAST AFRICAN HISTORY

#### Jewish Studies

JWST GU4145	Topics in Israeli Cinema
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#### Latin American and Iberian Cultures

PORT UN3490	BRAZILIAN SOCIETY # CIV (ENG)
<b>Middle Eastern, South Asian, and African Studies</b>	
AHUM UN1399	COLLOQUIUM ON MAJOR TEXTS: MIDDLE EAST/INDIA
ASCM UN2357	INTRO TO INDIAN CIVILIZATION
CLME UN3928	ARABIC PRISON WRITING
CLME GU4226	ARABIC AUTOBIOGRAPHY GLOBAL DIMENSIONS
<b>Music</b>	
AHMM UN3321	MUSICS OF INDIA # WEST ASIA
<b>Reid Hall in Paris</b>	
WMST OC3550	WOMEN # SOCIETY - SEX-TRADE ECONOMY (This course will be offered abroad in Reid Hall, Paris.)
<b>Religion</b>	
RELI UN2305	ISLAM
RELI UN2306	INTRO TO JUDAISM
RELI UN2308	BUDDHISM: EAST ASIAN
RELI UN2309	HINDUISM
RELI GU4999	GLOBAL INDIGENOUS RELIGIOUS HISTORIES
<b>Theatre</b>	
THTR UN3154	THEATRE TRAD GLOBAL CONTEXT

## Summer 2025

Last update: 3/14/25

<b>Art History and Archaeology</b>	
AHUM S2604	ARTS OF CHINA JAPAN KOREA
AHUM S2901	MASTERPIECES-INDIAN ART # ARCH
<b>Classics</b>	
CLCV UN3058	Worlds of Alexander the Great
GRKM OC3936	Columbia Summer Global Core: The Athens Experience
<b>Film</b>	
FILM S4215	CONTEMPORARY GLOBAL DOCUMENTAR
<b>History</b>	
HIST S3596	HIST OF LATINOS/AS IN THE U.S.
HIST UN3779	AFRICA AND FRANCE
<b>Italian</b>	
CLIA GU4699	Mediterranean Humanities I (Effective beginning Summer 2025. Students may only receive Global Core credit for either CLIA GU4499 or CLIA GU4699; not both.)

CLIA OC4600	Mediterranean Humanities II in Venice (This course will be offered in Venice, Italy. Effective beginning Summer 2025. Students may only receive Global Core credit for either CLIA GU4500 or CLIA OC4600; not both.)
<b>Middle Eastern, South Asian, and African Studies</b>	
MDES UN1001	CRITICAL THEORY: A GLOBAL PERSPECTIVE
AHUM UN1399	COLLOQUIUM ON MAJOR TEXTS: MIDDLE EAST/INDIA
<b>Music</b>	
AHMM UN3320	MUSIC IN EAST ASIA
AHMM S3321	MUSICS OF INDIA # WEST ASIA
<b>Religion</b>	
RELI S2305	ISLAM
<b>Slavic Languages</b>	
CLSL GU4013	Jewish Worlds in Eastern Europe: A Journey

## Spring 2025

Last update: 1/15/25

<b>Anthropology</b>	
ANTH UN1008	THE RISE OF CIVILIZATION
ANTH UN3465	WOMEN, GENDER POL-MUSLIM WORLD
ANTH UN3947	TEXT, MAGIC, PERFORMANCE
<b>Art History and Archaeology</b>	
AHUM UN2604	ARTS OF CHINA, JAPAN AND KOREA
<b>Center for the Core Curriculum</b>	
LACV UN1020	PRIM TEXTS OF LATIN AMER CIV
<b>Classics</b>	
CLCV UN2441	EGYPT IN CLASSICAL WORLD
CLCV UN3069	Society and Power in the Hellenistic Age (Effective beginning Spring 2025)
CLGM UN3920	WORLD RESPONDS TO THE GREEKS
CLGM GU4600	Multilingual America: Translation, Migration, Gender
<b>Comparative Literature and Society</b>	
CLGM UN3110	THE OTTOMAN PAST IN THE GREEK PRESENT
<b>Dance</b>	
DNCE BC2565	WORLD DANCE HISTORY
<b>East Asian Languages and Cultures</b>	
ASCE UN1361	INTRO EAST ASIAN CIV: JPN

ASCE UN1363	INTRO TO EAST ASIAN CIV: KOREA
AHUM UN1400	COLLOQUIUM ON MAJOR TEXTS
EAAS UN2844	CULTURE, MENTAL HEALTH, AND HEALING IN EAST ASIA (formerly EAAS UN3844; new course number effective Spring 2025)
EARL UN3310	The Body and/in Performance: Dance # Drama in Tibet # China (Effective beginning Spring 2025)
EAAS UN3322	EAST ASIAN CINEMA
EAAS UN3720	Women in Vietnamese society, history and literature (Effective beginning Spring 2025)
EAAS GU4134	Sex, Power, Performance: Gender in Chinese Literature (Effective beginning Spring 2025)
EAAS GU4565	TIBET IN THE WORLD: CULTURAL PRODUCTION AND SOCIAL CHANGE
HSEA GU4847	MODERN JAPAN
<b>Economics</b>	
ECON GU4325	ECONOMIC DEVELOPMENT OF JAPAN
<b>French and Romance Philology</b>	
FREN OC3719	VIOLENCE BY AND AGAINST WOMEN (This course is offered in Reid Hall, Paris.)
<b>Germanic Languages</b>	
GERM UN3780	BERL/ ISTANBUL:MIGRATN,CLTR,V
<b>History</b>	
HIST UN1004	ANCIENT HISTORY OF EGYPT
HIST UN1942	The Year 1000: A World History
HIST UN2444	THE VIETNAM WAR
HIST BC2699	Latin American Civilization II (Effective beginning Spring 2025. Same as HIST UN2661. Students may receive credit for either HIST UN2661 or HIST BC2699, but not both.)
HIST UN3608	Women and Gender in Latin America and the Caribbean (Effective beginning Spring 2025)
HSEA UN3898	THE MONGOLS IN HISTORY
HIST GU4811	Encounters with Nature: The History and Politics of Environment, Health and Development in South Asia and Beyond

**Italian**

CLIA GU4500	Mediterranean Humanities II
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**Jewish Studies**

JWST GU4158	Zionist Thought: Center and Periphery (Effective beginning Spring 2025)
JWST GU4601	The History of Mizrahi Jews (Effective beginning Spring 2025)

**Latin American and Iberian Cultures**

SPJS UN3303	JEWISH CULTURE IN TRANSL IN MED IBERIA
SPAN UN3349	HISPANIC CULTURES I (SP)
SPAN UN3350	HISPANIC CULTURES II (SP)
SPAN UN3361	ARTISTIC HUMANITY
SPAN UN3489	Staging Revolt: Masses, Multitudes # Political Performance in the Hispanic World (Effective beginning Spring 2025)
SPAN UN3894	Law, Literature, and Gender in the Hispanic World (Effective beginning Spring 2025)

**Middle Eastern, South Asian, and African Studies**

AHUM UN1399	COLLOQUIUM ON MAJOR TEXTS: MIDDLE EAST/INDIA
MDES UN1630	Introduction to South Asia (Effective beginning Spring 2025)
MDES UN2650	GANDHI # HIS INTERLOCUTORS
MDES UN3260	RETHINKING MIDDLE EAST POLITCS
MDES UN3930	Iraq: War, Love, and Exile
MDES GU4259	War Narrative: The Arab World
MDES GU4637	Cinema and Colonialism in South Asia

**Music**

AHMM UN3320	MUSIC IN EAST ASIA
MUSI GU4438	Music and Global Africa (Effective beginning Spring 2025)

**Religion**

RELI UN2309	HINDUISM
RELI UN3314	QURAN
RELI GU4999	GLOBAL INDIGENOUS RELIGIOUS HISTORIES

**Slavic Languages**

SLCL GU4002	Folklore Past and Present
GEOR GU4042	Expressive Culture of Soviet and Independent Georgia

**Urban Studies**

URBS UN3351	URBAN ELSEWHERE: EXPLORING A WORLD OF CITIES
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## Fall 2024

Last update: 9/10/24

### African- American Studies

AFAS UN1001	INTRO TO AFRICAN-AMER STUDIES
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### Anthropology

ANHS GU4001	THE ANCIENT EMPIRES
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### Art History and Archaeology

AHIS UN2622	Introduction to East Asian Art: China, Japan, and Korea
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### Center for the Core Curriculum

AFCV UN1020	AFRICAN CIVILIZATION
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LACV UN1020	PRIM TEXTS OF LATIN AMER CIV
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### Center for the Study of Ethnicity and Race

CSER UN1010	INTRO TO COMP ETHNIC STUDIES
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CSER UN3922	RACE#REPRESENTATION IN ASIAN AMER CINEMA
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CSER UN3926	LATIN MUSIC AND IDENTITY
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CSER UN3928	COLONIZATION/ DECOLONIZATION
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### Classics

CPLS UN3454	STAGING THE EARLY MOD MEDITERR
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CLCV UN3535	IDENTITY # SOCIETY ANC EGYPT (Effective beginning Fall 2024)
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CSGM UN3567	THESSALONIKI DOWN THE AGES
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GRKM UN3935	Hellenism and the Topographical Imagination
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### Committee on Global Thought

CGTH UN3401	Seminar in Global Thought: Inquiries into an Interconnected World
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### Dance- Barnard

DNCE BC3567	DANCES OF INDIA
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### East Asian Languages and Cultures

ASCE UN1002	INTRO MAJOR TPCS: EAST ASIAN
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ASCE UN1359	INTRO TO EAST ASIAN CIV: CHINA
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ASCE UN1365	INTRO EAST ASIAN CIV: TIBET
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ASCE UN1367	INTRO EA CIV: VIETNAM
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AHUM UN1400	COLLOQUIUM ON MAJOR TEXTS
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EAAS UN3710	FICTION, FILM, AND MODERN VIETNAM (Effective beginning Fall 2024)
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AHUM UN3830	COLL ON MODERN EAST ASIA TEXTS
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EAAS UN3927	CHINA IN THE MODERN WORLD
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EAAS GU4534	Medieval Travel Writing
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HSEA GU4880	HISTORY OF MODERN CHINA I
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HSEA GU4968	Japan 1968: student protest movements in global historical perspective
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### English and Comparative Literature

ENGL UN3794	Trees
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CLEN GU4199	LITERATURE AND OIL
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### Film Studies

FILM UN2294	WORLD CINEMA: LATIN AMERICA
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### French and Romance Philology

CLFR OC3821	CITY DIPLOMACY (Offered abroad in Reid Hall, Paris.)
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FREN GU4022	How to Love: Medieval French and Arabic
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### History

HIST UN2618	THE MODERN CARIBBEAN
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HIST UN2660	LATIN AMERICAN CIVILIZATION I
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HIST UN2709	Medieval Middle East
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HIST UN2719	HISTORY OF THE MOD MIDDLE EAST
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HSWM UN2761	GENDER # SEXUALITY IN AFRICA
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HSME UN2810	HISTORY OF SOUTH ASIA I
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HIST GU4681	The Nahuas Through Their Sources
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### Italian

CLIA GU4499	Mediterranean Humanities I
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### Jewish Studies

JWST GU4145	Topics in Israeli Cinema
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### Latin American Iberian Cultures

SPAN UN3349	HISPANIC CULTURES I (SP)
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SPAN UN3350	HISPANIC CULTURES II (SP)
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PORT UN3490	BRAZILIAN SOCIETY # CIV (ENG)
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### Linguistics

LING UN3102	Endangered Languages in the Global City: Lang, Culture, and Migration in Contemporary NYC
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### Middle Eastern, South Asian, and African Studies

MDES UN1003	Premodern Islamic Worlds
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MDES UN1030	“Game of Thrones”: On Epics and Empires
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AHUM UN1399	COLLOQUIUM ON MAJOR TEXTS: MIDDLE EAST/INDIA
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MDES UN2042	South Asia at the Crossroads of Empires
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ASCM UN2357	INTRO TO INDIAN CIVILIZATION
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CLME UN3928	ARABIC PRISON WRITING
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CLME GU4226	ARABIC AUTOBIOGRAPHY GLOBAL DIMENSIONS
<b>Music</b>	
MUSI UN2020	SALSA, SOCA # REGGAE
AHMM UN3321	MUSICS OF INDIA # WEST ASIA
<b>Physics</b>	
SCNC UN3001	Nuclear Weapons and Nuclear Testing: Marshall Islands
<b>Religion</b>	
RELI UN2306	INTRO TO JUDAISM
RELI UN2308	BUDDHISM: EAST ASIAN
RELI UN2405	CHINESE RELIGIOUS TRADITIONS
<b>Slavic Languages</b>	
RUSS UN3230	Tricksters in World Culture: Mockery, Subversion, Rebellion
SLCL UN3100	FOLKLORE PAST # PRESENT
CLSL GU4012	Holocaust Literature: Critical Thinking in Dark Times
<b>Theatre</b>	
THTR UN3154	THEATRE TRAD GLOBAL CONTEXT
Women's Studies (Reid Hall, Paris)	
WMST OC3550	WOMEN # SOCIETY - SEX-TRADE ECONOMY

## All Approved Courses: Morningside Campus

Last update: 3/14/25

**Note:** Not all courses are taught each academic year. Below is the full list of all courses offered on the Morningside Campus that are approved for the Global Core requirement, regardless of semester offered.

### African-American Studies

AFAS UN1001	INTRO TO AFRICAN-AMER STUDIES
AFAS UN1003	Blackness and Frenchness: A Radical Genealogy (Effective beginning Spring 2023)

### Anthropology

ANTH UN1008	THE RISE OF CIVILIZATION
ANTH V1130	Africa and the Anthropologist
ANTH UN2007	Indian and Nigerian Film Cultures
ANTH V2013	Africa in the 21st Century: Aesthetics, Culture, Politics
ANTH V2014	Archaeology and Africa: Changing Perceptions of the African Past
ANTH V2020	Chinese Strategies: Cultures in Practice
ANTH V2027	Changing East Asia Foodways

ANTH UN2031	Corpse Life: Anthropological Histories of the Dead [Previously Archaeologies of Death and
ANTH V2035	Introduction to the Anthropology of South Asia
ANTH V2100	Muslim Societies
ANTH UN2141	Frontier Imaginaries (Effective beginning Spring 2022)
ANTH UN3300	Pre-Columbian Histories of Native America
ANTH UN3465	WOMEN, GENDER POL-MUSLIM WORLD
ANTH V3525	Introduction to South Asian History and Culture
ANTH UN3821	Native America
ANTH V3892	CONTEMP CENT ASIA:STATES # SOC
ANTH UN3933	ARABIA IMAGINED
ANTH UN3947	TEXT, MAGIC, PERFORMANCE
ANHS GU4001	THE ANCIENT EMPIRES
ANTH G4065	Archaeology of Idols

### Art History and Archaeology

AHIS UN2119	ROME BEYOND ROME
AHIS UN2500	ARTS OF AFRICA
AHIS UN2600	THE ARTS OF CHINA
AHUM UN2604	ARTS OF CHINA, JAPAN AND KOREA
AHIS UN2614	Chinese Painting of the Song Dynasty (960-1279) (Effective beginning Summer 2021)
AHIS UN2622	Introduction to East Asian Art: China, Japan, and Korea (Effective beginning Fall 2024)
AHUM UN2800	Arts of Islam, 700-1000 CE
AHUM UN2802	Arts of Islam: Realignment of Empire and State (ca. 1000-1400)
AHUM UN2901	MASTERPIECES-INDIAN ART # ARCH
AHIS W3500	Yoruba and the Diaspora
AHIS UN3501	African Art: The Next Generation. Focus: Congo
AHIS UN3503	Contemporary Arts of Africa (Effective beginning fall 2020)
AHIS W3832	Sacred Landscapes of the Ancient Andes
AHIS Q4570	Andean Art and Architecture
AHIS GU4584	Critical Approaches to Persianate Painting

### Center for the Core Curriculum

AFCV UN1020	AFRICAN CIVILIZATION
LACV UN1020	PRIM TEXTS OF LATIN AMER CIV

### Center for the Study of Ethnicity and Race

CSER UN1010	INTRO TO COMP ETHNIC STUDIES	CPLS UN3454	STAGING THE EARLY MOD MEDITERR
CSER W3510	Novels of Immigration, Relocation, and Diaspora	CLGM UN3920	WORLD RESPONDS TO THE GREEKS
CSER UN3922	RACE#REPRESENTATION IN ASIAN AMER CINEMA	CPLS W3945	Transnational Memory Politics and the Culture of Human Rights
CSER UN3926	LATIN MUSIC AND IDENTITY	CPLS W3955	The West in Global Thought
CSER UN3928	COLONIZATION/ DECOLONIZATION	CPLS W3956	Postcolonial Narrative and the Limits of the Human
<b>Classics</b>		CPLS W4100	Andalusian Symbiosis: Islam and the West
CLCV UN2441	EGYPT IN CLASSICAL WORLD	CPLS GU4111	World Philology
CLCV UN3059	WORLDS OF ALEXANDER THE GREAT	<b>Dance (Barnard)</b>	
CLCV UN3069	Society and Power in the Hellenistic Age (Effective beginning Spring 2025)	DNCE BC2565	WORLD DANCE HISTORY
CLCV W3111	Plato and Confucius: Comparative Ancient Philosophies	DNCE BC3550	Dance in Africa (Effective beginning Fall 2022)
CLCV W3244	Global Histories of the Book	DNCE BC3567	DANCES OF INDIA
CLCV UN3535	IDENTITY # SOCIETY ANC EGYPT (Effective beginning Fall 2024)	DNCE BC2665	World Dance History (Effective Summer 2023. Students may only receive credit for either DNCE BC2665 or DNCE BC2565; not both.)
CSGM UN3567	THESSALONIKI DOWN THE AGES	<b>East Asian Languages and Cultures</b>	
CLGM UN3920	WORLD RESPONDS TO THE GREEKS	ASCE UN1002	INTRO MAJOR TPCS: EAST ASIAN
GRKM UN3935	Hellenism and the Topographical Imagination	ASCE UN1359	INTRO TO EAST ASIAN CIV: CHINA
CLCV GU4411	Egypt in the Classical World (Effective beginning Spring 2020)	ASCE UN1361	INTRO EAST ASIAN CIV: JPN
CLGM GU4600	Multilingual America: Translation, Migration, Gender (Effective beginning Fall 2021)	ASCE UN1363	INTRO TO EAST ASIAN CIV: KOREA
<b>Colloquia and Interdepartmental Seminars</b>		ASCE UN1365	INTRO EAST ASIAN CIV: TIBET
INSM UN3920	NOBILITY/CIVILITY: EAST/ WEST I	ASCE UN1367	INTRO EA CIV: VIETNAM
INSM UN3921	Nobility and Civility II	AHUM UN1400	COLLOQUIUM ON MAJOR TEXTS
INSM C3940	Science Across Cultures	EAAS UN2342	Mythology of East Asia
INSM W3950	Friendship in Asian and Western Civilization	EAAS UN2844	CULTURE, MENTAL HEALTH, AND HEALING IN EAST ASIA (Was formerly EAAS UN3844; new course number effective beginning Spring 2025)
<b>Committee on Global Thought</b>		EAAS UN3114	Chinese Theater and Drama Traditions (Effective beginning Spring 2023)
CGTH UN3401	Seminar in Global Thought: Inquiries into an Interconnected World	EAAS UN3116	Supernatural in East Asia (Effective beginning Spring 2020)
CGTH UN3402	YOUTH-INTERCONNECTED WRLD	EAAS UN3121	Minority Literature in Modern China
<b>Comparative Literature and Society</b>		EARL UN3310	The Body and/in Performance: Dance # Drama in Tibet # China (Effective beginning Spring 2025)
CLGM UN3110	THE OTTOMAN PAST IN THE GREEK PRESENT	EAAS UN3322	EAST ASIAN CINEMA
CPLS UN3333	EAST/WEST FRAMETALE NARRATIVES	EAAS UN3338	CULTRL HIST-JAPANESE MONSTERS

EAAS V3350	Japanese Fiction and Film
EAAS UN3710	FICTION, FILM, AND MODERN VIETNAM (Effective beginning Fall 2024)
EAAS UN3720	Women in Vietnamese society, history and literature (Effective beginning Spring 2025)
AHUM UN3830	COLL ON MODERN EAST ASIA TEXTS
EAAS UN3844	CULTURE, MENTAL HEALTH, AND HEALING IN EAST ASIA (EAAS UN2844 new course number effective Spring 2025)
HSEA Q3870	Japan Before 1600
EAAS UN3927	CHINA IN THE MODERN WORLD
EAAS GU4017	Ethnography and Representation in Tibet (Effective beginning Fall 2020)
EAAS GU4111	Modern Chinese Poetry in a Global Context (was formerly EAAS UN3122 "Modern Chinese Poetry in a Global Context")
EARL W4127	Mediations, Perceptions, Words: Poetry in Buddhist Literature
EAAS GU4134	Sex, Power, Performance: Gender in Chinese Literature (Effective beginning Spring 2025)
EAAS GU4160	CULTURES IN COLONIAL KOREA
EAAS GU4277	Japanese Anime and Beyond: Gender, Power and Transnational Media
HSEA GU4222	China's Global Histories: People, Space, and Power (Effective beginning Fall 2019)
EAAS GU4233	Sonic Modernity in East Asia (Effective beginning Spring 2020)
EARL GU4310	LIFE WRIT/TIBET BUDDHIST LIT
EARL GU4312	TIBETAN SACRED SPACE(IN COMPARATIVE CONT
EAAS GU4412	History of Writing in a Cosmopolitan East Asia (Effective beginning Fall 2023)
EAAS GU4445	Proletarian Asia - working-class culture from 1930s to present (Effective beginning Spring 2022)
HSEA GU4542	The History of the Samurai (Effective beginning Spring 2023)
EAAS GU4534	Medieval Travel Writing (Effective beginning Fall 2024)

EAAS GU4565	TIBET IN THE WORLD: CULTURAL PRODUCTION AND SOCIAL CHANGE (Effective beginning Spring 2022)
EARL GU4575	Tibet in Eurasian Circulatory History (Effective beginning Fall 2023)
HSEA GU4822	Troubled Islands of the Indo Pacific
HSEA GU4847	MODERN JAPAN
HSEA GU4816	Comparing Indigenities (Effective beginning Spring 2020)
HSEA W4866	Competing Nationalisms in East Asia: Representing Chinese and Tibetan Relations in History
HSEA GU4880	HISTORY OF MODERN CHINA I (Effective beginning Fall 2024)
HSEA GU4968	Japan 1968: student protest movements in global historical perspective (Effective beginning Fall 2024)
<b>Economics</b>	
ECON GU4325	ECONOMIC DEVELOPMENT OF JAPAN
<b>English and Comparative Literature</b>	
CLEN UN3360	Theaters of Gods and Heroes (Effective beginning Spring 2020)
ENGL UN3489	Black Lives in Pre-Modern Britain (effective beginning Fall 2022)
CLEN S3682	Human Rights in World Literature and Visual Culture (was formerly CLEN S3851)
ENGL UN3794	Trees (Effective beginning Fall 2023)
CLEN S3829	Fantastic Fictions: Postmodern Asian American Literature (Effective beginning Summer 2020)
ENGL UN3851	INDIAN WRITING IN ENGLISH
CLEN GU4199	LITERATURE AND OIL (Effective beginning Fall 2020)
CLEN UN3933	POSTCOLONIAL LITERATURE
ENTA UN3948	African Drama
CLEN W4200	Caribbean Diaspora Literature
CLEN GU4644	REVOLUTION IN/ON THE CARIBBEAN
ENGL GU4650	Novels of Immigration, Relocation, Diaspora
ENTA GU4729	GLOBAL ANGLOPHONE DRAMA (Effective beginning Spring 2022)

<b>Film</b>		HIST W1054	Introduction to Byzantine History
FILM UN2292	Topics in World Cinema: China	HIST UN2003	Empire # Nation-Building East Central Europe (Effective beginning Fall 2020)
FILM UN2294	WORLD CINEMA: LATIN AMERICA	HIST UN2336	Everyday Communism (Effective beginning Spring 2020)
FILM S2295Q	World Cinema: Mexico	HIST UN2176	REVOLUTION # EMPIRE: HAITI # FRANCE, 1789-1820 (Effective beginning Summer 2022)
FILM UN2296	ARAB # AFRICAN FILMMAKING	HIST UN2377	WORLD HISTORY SINCE WW II
FILM GU4020	Brazilian Cinema: Cinema Novo and Beyond (Effective beginning Fall 2021)	HIST UN2444	THE VIETNAM WAR
FILM S4215D	Contemporary Global Documentary (Effective beginning Summer 2019)	HIST UN2580	US - EAST ASIA RELATIONS
FILM GU4294	World Cinema: Latin America (Effective beginning Summer 2021)	HIST UN2618	THE MODERN CARIBBEAN
<b>French and Romance Philology</b>		HIST UN2657	Medieval Jewish Cultures
CLFR UN3716	Francophone Romance : Love and Desire in French Colonial and Post-Colonial Literatures	HIST UN2660	LATIN AMERICAN CIVILIZATION I
FREN UN3822	Blackness in French: From Harlem to Paris and Beyond (Effective beginning Summer 2021)	HIST UN2661	LATIN AMERICAN CIVILIZATION II
CLFR GU4002	French Theory in a Global Context (Effective beginning Spring 2022)	HIST BC2699	Latin American Civilization II (Effective beginning Spring 2025. Same as HIST UN2661. Students may receive credit for either HIST UN2661 or HIST BC2699, but not both)
CLFR GU4020	Contemporary Migrations in the French & North African Context (Effective beginning Summer 2020)	HIST UN2701	THE OTTOMAN EMPIRE
FREN GU4022	How to Love: Medieval French and Arabic (Effective beginning Fall 2024)	HIST UN2709 (Effective beginning Fall 2024)	
CLFR GU4440	Remapping Algeria: Poetics and Politics of Space (Effective beginning Spring 2021)	HIST UN2719	HISTORY OF THE MOD MIDDLE EAST
CLFR GU4321	The Maghreb in Transition: Society # Culture in North Africa Since 1990 (Effective beginning Summer 2021)	HSWM UN2761	GENDER # SEXUALITY IN AFRICA
CLFR GU4421	The Caribbean Digital (Effective beginning Fall 2020)	HIST UN2764	EAST AFRICAN HISTORY
CLFR GU4716	FRANCOPHONE ROMANCE LOVE, SEX, INTIMACY IN THE FRENCH COLONIAL WORLD	HIST UN2772	West African History
<b>Germanic Languages</b>		HIST W2803	The Worlds of Mughal India
GERM UN3780	BERL/ ISTANBUL:MIGRATN,CLTR,VAL	HSME UN2810	HISTORY OF SOUTH ASIA I
<b>History</b>		HSME UN2811	South Asia: Empire and Its Aftermath
HIST UN1004	ANCIENT HISTORY OF EGYPT	HIST W2880	Gandhi's India
HIST UN1942	The Year 1000: A World History (Effective beginning Spring 2024)	HIST UN2881	VIETNAM IN THE WORLD
		HIST Q2900	History of the World to 1450 CE
		HIST W2943	Cultures of Empire
		HIST UN3152	Byzantine Encounters in the Mediterranean and the Middle East
		HIST UN3298	Popular Culture in Modern African History (Effective beginning Fall 2019)
		HIST Q3400	Native American History
		HIST S3596	HIST OF LATINOS/AS IN THE U.S. (Effective beginning Summer 2022)
		HIST UN3601	Jews in the Later Roman Empire, 300-600 CE

HIST UN3608	Women and Gender in Latin America and the Caribbean (Effective beginning Spring 2025)
HIST W3678	Indigenous Worlds in Early Latin America
HIST UN3766	African Futures
HIST UN3779	AFRICA AND FRANCE
HSEA UN3898	THE MONGOLS IN HISTORY
HIST Q3933	Empires and Cultures of the Early Modern Atlantic World
HIST GU4301	Politics and Justice in Latin America through Crime Fiction (Effective beginning Fall 2021)
HIST GU4660	Indigenous Worlds in Early Latin America (Effective beginning Fall 2021)
HIST GU4681	The Nahuas Through Their Sources (Effective beginning Fall 2024)
HIST GU4811	Encounters with Nature: The History and Politics of Environment, Health and Development in South Asia and Beyond
<b>Italian</b>	
ITAL GU4022	THE QUR'AN IN EUROPE
CLIA GU4499	Mediterranean Humanities I (Effective beginning Fall 2022. Students may receive Global Core credit for either CLIA GU4699 or CLIA GU4499; but not both.)
CLIA GU4500	Mediterranean Humanities II (Effective beginning Fall 2021. Students may receive Global Core credit for either CLIA GU4500 or CLIA GU400, but not both.)
CLIA GU4699	Mediterranean Humanities I (Effective beginning Summer 2025. Students may receive Global Core credit for either CLIA GU4699 or CLIA GU4499; but not both.)
<b>Jewish Studies</b>	
JWST UN3538	Jews in the City in the Islamic Middle East (Effective beginning Spring 2021)
JWST GU4145	Introduction to Israeli Cinema (Effective beginning Spring 2020)
JWST GU4148	Jewish Histories of the Modern Middle East (Effective beginning Fall 2023)
JWST GU4149	A History of Jewish-Muslim Encounters: From the Beginning of Islam Until Today (Effective beginning Fall 2023)

JWST GU4158	Zionist Thought: Center and Periphery (Effective beginning Spring 2025)
JWST GU4601	The History of Mizrahi Jews (Effective beginning Spring 2025)
<b>Latin American and Caribbean Studies</b>	
LCRS UN3500	Latin American Cities
<b>Latin American and Iberian Cultures</b>	
SPJS UN3303	JEWISH CULTURE IN TRANSL IN MED IBERIA
SPAN UN3349	HISPANIC CULTURES I (SP)
PORT UN3350	LUSOPHONE AFR/AFRO-BRAZ CULTRS
SPAN UN3350	HISPANIC CULTURES II (SP)
SPAN UN3361	ARTISTIC HUMANITY
SPAN UN3489	Staging Revolt: Masses, Multitudes # Political Performance in the Hispanic World (Effective beginning Spring 2025)
PORT UN3490	BRAZILIAN SOCIETY # CIV (ENG)
SPAN W3490	Latin American Humanities I: From Pre-Columbian Civilizations to the Creation of New Nations
SPAN W3491	Latin American Humanities II: From Modernity to the Present [In English]
PORT UN3601	Race, Medicine and Literature in 19th-Century Brazil (Effective beginning Fall 2020)
SPAN UN3894	Law, Literature, and Gender in the Hispanic World (Effective beginning Spring 2025)
<b>Linguistics</b>	
LING UN3102	Endangered Languages in the Global City: Lang, Culture, and Migration in Contemporary NYC
<b>Middle Eastern, South Asian, and African Studies</b>	
MDES UN1001	CRITICAL THEORY: A GLOBAL PERSPECTIVE
MDES UN1003	Premodern Islamic Worlds (Effective beginning Fall 2024)
MDES UN1030	"Game of Thrones": On Epics and Empires (Effective beginning Fall 2021)
AHUM UN1399	COLLOQUIUM ON MAJOR TEXTS: MIDDLE EAST/INDIA
MDES UN1630	Introduction to South Asia (Effective beginning Spring 2025)
ASCM V2001	Introduction to Major Topics in the Civilizations of the Middle East and India



ASCM UN2003	INTRO TO ISLAMIC CIVILIZATION	CLME GU4031	Cinema and Society In Asia and Africa
ASCM UN2008	CONTEMP ISLAMIC CIVILIZATION	MDES G4052	Locating Africa in the Early 20th Century World
MDES UN2006	What is Islam? (Effective beginning Spring 2022)	MDES GU4150	Introduction to African Philosophy
MDES UN2012	Finding Happiness: Readings in Arab-Islamic Texts (Effective beginning Fall 2022)	CLME GU4225	New Millenium Challenges in Arabic Literary Production
MDES UN2030	Major Debates in the Study of Africa	CLME GU4226	ARABIC AUTOBIOGRAPHY GLOBAL DIMENSIONS
MDES W2041	Introduction to Indian Philosophy	CLME GU4229	Afro-Mediterranean Cultural Geographies: Ifriqiya-Tunis
MDES UN2042	South Asia at the Crossroads of Empires (Effective beginning Fall 2023)	CLME GU4231	COLD WAR ARAB CULTURE
ASCM UN2357	INTRO TO INDIAN CIVILIZATION	CLME GU4241	SUFISM: PRIMARY TEXTS/ CONTEXTS
MDES UN2641	CINEMAS OF INDIA (Effective beginning Fall 2020)	CLME G4261	Popular Islam: Asia and Africa
MDES UN2650	GANDHI # HIS INTERLOCUTORS	MDES GU4259	War Narrative: The Arab World (Effective beginning Fall 2019)
MDES UN3000	THEORY AND CULTURE	CLME GU4262	THEMES IN THE ARABIC NOVEL
CLME W3032	Colonialism: Film, Fiction, History & Theory	MDES GU4266	Decolonizing the Arabian Nights (Effective beginning Fall 2021. Effective Spring 2022- New course number CLME UN3266)
HSME UN3044	From Colonial to Global Health	CLME GU4272	ARABIC LITERATURE AS WORLD LITERATURE (formerly CLME UN3221; course number change effective Spring 2020)
MDES UN3047	MESAAS # History: Court Cultures 350-1750 (Effective beginning Spring 2021)	MDES G4326	The Armenian Genocide and the Holocaust: Memory and Representation
MDES UN3121	Literature and Cultures of Struggle in South Africa	MDES GU4360	Armenians and the Modern World (Effective beginning Spring 2024)
MDES UN3130	E AFRICA # THE SWAHILI COAST	MDES GU4634	Sound and Listening Cultures of the Indian Subcontinent (Effective beginning Spring 2023)
CLME UN3221	ARABIC LITERATURE AS WORLD LITERATURE (renumbered to CLME GU4272- course number change effective Spring 2020 )	MDES GU4637	Cinema and Colonialism in South Asia
MDES UN3260	RETHINKING MIDDLE EAST POLITCS	MDES GU4945	Contested Histories: A Medieval Jewish Empire? (Effective beginning Spring 2024)
CLME UN3266	Decolonizing the Arabian Nights (Was formerly MDES GU4266 "Decolonizing the Arabian Nights". New course number effective beginning Spring 2022.)	<b>Music</b>	
MDES UN3335	Introduction to Armenian Studies (Effective beginning Fall 2023)	MUSI UN2020	SALSA, SOCA # REGGAE
MDES UN3421	Islamic Central Asia (Effective beginning Fall 2020- offered as a one-time course)	MUSI V2430	Listening and Sound in Cross-Cultural Perspective
MDES UN3445	SOCIETIES/CULTRS: INDIAN OCEAN	AHMM UN3320	MUSIC IN EAST ASIA
CLME UN3928	ARABIC PRISON WRITING	AHMM UN3321	MUSICS OF INDIA # WEST ASIA
MDES UN3930	Iraq: War, Love, and Exile (Effective beginning Spring 2021)	MUSI GU4113	Medieval Mediterranean Love Songs (Effective beginning Spring 2024)
		MUSI GU4438	Music and Global Africa
		MUSI GU4466	Sound and Image in Modern East Asian Music

**Physics**

SCNC UN3001 Nuclear Weapons and Nuclear Testing: Marshall Islands (Effective beginning Spring 2021)

**Philosophy**

PHIL UN3000 BUDDHIST PHILOSOPHY (Effective beginning Fall 2022)

**Religion**

RELI UN1612 Religion and the History of Hip Hop (Effective beginning Spring 2020)

RELI UN2205 BUDDHISM: INDO-TIBETAN

RELI UN2305 ISLAM

RELI UN2306 INTRO TO JUDAISM

RELI UN2308 BUDDHISM: EAST ASIAN

RELI UN2309 HINDUISM

RELI UN2335 RELI IN BLACK AMERICA: AN INTRO

RELI UN2405 CHINESE RELIGIOUS TRADITIONS (formerly RELI UN2307)

RELI UN3303 Judaism and Translation in the Medieval and Early Modern Mediterranean

RELI UN3314 QURAN (Effective beginning Fall 2023)

RELI UN3407 Muslims in Diaspora

RELI UN3425 Judaism and Courtly Literature in Medieval and Early Modern Iberia and Italy

RELI Q3511 Tantra in South Asia, East Asia & the West

RELI UN3521 Muslim Masculinities

RELI GU4214 African and North African Philosophy: An Introduction (Effective beginning Summer 2021)

RELI GU4215 Hinduism Here

RELI GU4204 Religions of the Iranian World (Effective beginning Spring 2020)

RELI GU4304 Krishna

RELI GU4314 Bhakti Poets (Effective beginning Spring 2022)

RELI GU4322 EXPLORING THE SHARIA: ISLAMIC LAW

RELI GU4418 On African Theory: Religion, Philosophy, Anthropology

RELI GU4999 GLOBAL INDIGENOUS RELIGIOUS HISTORIES (Effective beginning Fall 2020)

**Slavic Languages**

SLCL UN3001 SLAVIC CULTURES

CLRS GU4022 Russia and Asia: Orientalism, Eurasianism, Internationalism

GEOR GU4042 Expressive Culture of Soviet and Independent Georgia

SLCL UN3100 FOLKLORE PAST # PRESENT (Effective beginning Fall 2021 semester- New course number SLCL GU4002- effective beginning Spring 2025)

RUSS UN3230 Tricksters in World Culture: Mockery, Subversion, Rebellion (Effective beginning Fall 2022)

SLCL GU4002 Folklore Past and Present (formerly SLCL UN3001- New course number effective beginning Spring 2025)

CLSL GU4012 Holocaust Literature: Critical Thinking in Dark Times (Effective beginning Fall 2023)

CLSL GU4013 Jewish Worlds in Eastern Europe: A Journey (Effective beginning Summer 2024)

CLRS W4190 Race, Ethnicity, and Narrative, in the Russian/Soviet Empire

**Sociology**

SOCI UN3324 Global Urbanism

**Theatre**

THTR UN3154 THEATRE TRAD GLOBAL CONTEXT

**Urban Studies**

URBS UN3351 URBAN ELSEWHERE: EXPLORING A WORLD OF CITIES (Effective beginning Spring 2021)

**All Approved Courses: Offered Abroad**

**Last update: 3/14/25**

**Note:** Not all courses are taught each academic year. Below is the full list of all courses offered abroad through Columbia-sponsored programs that are approved for the Global Core requirement, regardless of semester offered. For more information, consult the Office of Global Programs.

**Columbia Athens Global Center**

GRKM OC3936 Columbia Summer Global Core: The Athens Experience (Effective beginning Summer 2025)

**Columbia in Amman and Paris: Middle Eastern and North African Studies (MENA) Program**

MENA OC4100 Migration, Displacement and Diaspora in the French and North African Context

**Columbia Summer in Amman and Tunis: Middle Eastern and North African Studies**

MENA OC4101 Culture/History Seminar of the Middle East-North Africa Summer Program in Amman & Tunis

**Columbia Global Seminar in Istanbul**

Not offered during the Spring 2018 semester

CLGM OC3920 The World Responds to the  
Greeks: Greece Faces East

**Columbia in London- Queen Mary University**

CLEN OC3500 LONDON IN POSTCOLONIAL  
FICTION: 'WE ARE HERE  
BECAUSE YOU WERE  
THERE

**Columbia Summer Program in Tunis and Istanbul:  
Democracy and Constitutional Engineering**

POLS OC3545 Comparative Democratic Politics

Slavic Languages- Office of Global Programs

CLSL OC4001 The Muslim and the Christian in  
Balkan Narratives

**Columbia Summer Program in Venice**

CLIA OC4600 Mediterranean Humanities II  
in Venice (Effective beginning  
Summer 2025. Students may  
only receive Global Core credit  
for either CLIA GU4500 or  
CLIA OC4600; not both.)

**Reid Hall in Paris**

AHIS OC4652 The Black Voices of Black  
Model: New Perspectives for the  
Histories of Art

FILM OC4225 Arab & African Filmmaking

CLEN OC3245 Black Americans and the City of Light: A  
Seminar (Effective beginning Summer 2020)

FREN OC3330 Paris Noir (same as FREN OC3817-Black  
Paris- course number effective beginning Summer 2021)

FILM GU4330 (Effective beginning Summer  
2024)

FREN OC3719 VIOLENCE BY AND  
AGAINST WOMEN

FREN OC3817 Black Paris

CLFR OC3821 CITY DIPLOMACY (Effective  
beginning Spring 2021)

FREN OC3821 "Blackness" in French: from  
Harlem to Paris and Beyond

HIST UN3136 France and the African Diaspora (Effective  
beginning Summer 2024)

FMST GU4325 Waves on New Shores: New Cinema in  
France, Japan, and Brazil (effective beginning Summer  
2022)

WMST OC3550 WOMEN # SOCIETY - SEX-  
TRADE ECONOMY

two-semester Columbia Core sequence Contemporary  
Civilization, COCI GS1101-COCI GS1102 (commonly  
known as "CC"), which gives students the chance to engage  
directly with some of the key political and philosophical  
texts in the history of Western thought.

Founded in 1919 as a course on War and Peace Issues,  
the central purpose of Contemporary Civilization is to  
introduce students to a range of issues concerning the kinds  
of communities – political, social, moral, and religious – that  
human beings construct for themselves and the values that  
inform and define such communities; the course is intended  
to prepare students to become active and informed citizens.  
While readings in this one-year course change from time  
to time, the factors that lead to adoption of a text always  
include historical influence, the presentation of ideas of  
enduring importance, and the demonstrated ability of a text  
to provoke productive discussion. Interested students are  
encouraged to refer to the [current reading list](#) for additional  
information.

This year-long course is particularly recommended for  
students who are planning to major in any social science  
field, and it is required for students entering with under  
30 transfer credits in summer 2020 and after who have  
not already fulfilled this requirement through transfer  
credit. It is recommended, but not required, that students  
take COCI GS1101- COCI GS1102 sequentially.

Students with 30 transfer credits or more can also select two  
social science courses from the following departments and  
interdisciplinary programs to fulfill the social sciences core  
requirement:

- Anthropology
- Economics
- History\*
- Political Science
- Psychology
  - Columbia psychology courses at the 2600-, 3600-, or  
4600- level
  - Barnard College psychology courses except Statistics  
(PSYC BC1101)
- Sociology

\*Courses from the Department of History may be counted  
toward the social science or humanities requirement, but in  
no case may more than two courses from one department be  
used to fulfill the GS core requirements.

\*\*Students may not receive credit for  
both PSYC BC1101 and PSYC UN1001. Psychology majors  
should consult the Department of Psychology for additional  
restrictions on overlapping courses

**Interdisciplinary Programs**

## CONTEMPORARY CIVILIZATION/SOCIAL SCIENCE

Courses in the social sciences provide students with a basis  
for understanding social systems and the interactions of  
individuals and societies. All GS students must take two  
courses in this area. GS students may elect to take the

The following interdisciplinary programs offer courses in social sciences, humanities and/or sciences. GS advisors must determine the appropriate category for a course when taken to satisfy a core requirement.

- African-American Studies
- American Studies
- Comparative Ethnic Studies
- Comparative Literature and Society
- East Asian Languages and Cultures
- Ethnicity and Race Studies
- Hispanic Studies
- Human Rights
- Jewish Studies
- Latin American and Caribbean Studies
- Linguistics
- Middle East, South Asian, and African Studies
- Sustainable Development\*\*\*
- Women's and Gender Studies

\*\*\* Challenges of Sustainable Development (SDEV UN2300) can count towards the social science requirement.

## QUANTITATIVE REASONING

Courses that fulfill the quantitative reasoning (QR) Core requirement aim to develop critical skills in quantitative analysis and deductive reasoning, which are particularly relevant to the study of science and the social sciences.

### QR Requirement Fulfillment

- Scoring a minimum of 600 on the Math SAT or 27 on the math subsection of the ACT within the eight years prior to matriculation;
- Earning a passing score on the GS Quantitative Reasoning Exam;
- Earning a passing letter grade in a course from the list of approved courses;
- Receiving approved transfer credit on the Entrance Credit Report (ECR) in computer science, mathematics, or statistics from international high school leaving exams (e.g., French Baccalaureate, GCE Advanced Level examination, etc.) or courses taken within eight years prior to matriculation worth a minimum of three points each and equivalent to those classes on the list of approved courses below, as determined by the Dean of Students Office.

### Computer Science, Economics, Mathematics, and Statistics

Any course selected from the following departments fulfills the quantitative reasoning requirement when passed with a satisfactory letter grade:

- Computer Science (except S1021D, S1022Q)
- Economics (Columbia department only)
- Mathematics
- Statistics

Approved Columbia courses in computer science, mathematics, and statistics may count toward both the QR requirement and the science requirement. Approved transfer credit for relevant courses in computer science, mathematics, and statistics may count toward both the QR and one science requirement as well; however, the course must have been taken within the last eight years prior to matriculation to satisfy the QR requirement.

COLLEGE ALGEBRA-ANLYTC GEOMTRY (MATH UN1003) (or the equivalent) may count toward the QR requirement only.

### Foundations of Science

Using modern, student-centered, active and collaborative learning techniques, students will engage — through field observations, in-class experiments, computer simulations, and selected readings — with a range of ideas and techniques designed to integrate and anchor scientific habits of mind. Topics covered will include statistics, basic probability, a variety of calculations skills, graph reading and estimation, all aimed at elucidating such concepts as energy, matter, cells, and genes in the context of astronomy, biology, chemistry, earth sciences, neuroscience, and physics.

Foundations of Science (SCNC UN1212) satisfies both the QR requirement and one course of the science requirement when passed with a letter-grade of C or above.

### Frontiers of Science

The goal of this Columbia Core Curriculum course is to introduce students to the way scientists think. As they delve into questions drawn from fields as varied as neuroscience and astrophysics, students learn why scientists cultivate a sense of scale, why they like to convert data to graphs, and why they are so careful to differentiate correlation from causation. Along the way, students are invited to think about how science might contribute answers to old questions (what is the place of our species in the universe?) and new ones (is continued industrialization an environmentally sustainable proposition?).

FRONTIERS OF SCIENCE-DISC (SCNC CC1100) satisfies both the QR requirement and one course of the science requirement when passed with a letter-grade of C or above.



Students interested in taking *Frontiers of Science* should contact Professor Ivana Hughes before or during the first week of classes to discuss their previous experience with related coursework. Prof. Hughes can be reached at [ih2194@columbia.edu](mailto:ih2194@columbia.edu).

**\*\*Note:** Neither *Foundations of Science* nor *Frontiers of Science* may be selected for the P/D/F grading option whether or not they are taken towards core requirements.

## Approved QR Courses

The following Columbia courses have been approved as satisfying the QR requirement if completed with a satisfactory letter grade. This list is updated annually. If a particular quantitative reasoning course does not appear on the list, students should ask their respective GS advisors about its appropriateness for the requirement.

**Equivalent transfer courses may not count toward the QR requirement.**

ECON BC1007	MATH METHODS FOR ECONOMICS
ECON BC2411	STATISTICS FOR ECONOMICS
EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
PHIL UN1401	INTRODUCTION TO LOGIC
PHIL UN3411	SYMBOLIC LOGIC
PHYS UN1001	PHYSICS FOR POETS
POLS UN3704	RESEARCH DESIGN: DATA ANALYSIS
POLS UN3720	RESEARCH DESIGN: SCOPE AND METHODS
POLS UN3768	Experimental Research
POLS GU4730	GAME THEORY # POLIT THEORY
POLS GU4700	MATH # STATS FOR POLI SCI
POLS GU4710	PRINC OF QUANT POL RESEARCH I
PSYC BC1101	STATISTICS LECTURE AND RECITATION
PSYC UN1610	STATISTICS-BEHAVIORAL SCIENTISTS
SOCI W2220	Evaluation of Evidence
SOCI BC3211	Quantitative Methods
SOCI UN3020	Social Statistics
URBS UN3200	Spatial Analysis: GIS Methods and Urban Case Studies

**Note:** Barnard students are given preference for enrollment in Barnard courses that may fulfill the QR requirement. Barnard courses that fulfill a core requirement will not necessarily count toward a major at Columbia if a student chooses to major or concentrate in one of these fields. (See individual departments concerning courses approved and required for the major.)

**\*N.B.:** The italicized text on the course description page for BC1007 regarding calculus requirements for economics majors applies to Barnard College students only.

## SCIENCE

The Core science requirement aims to develop critical awareness of the methods and limits of scientific inquiry, while fostering observational and analytical skills, particularly in reference to the natural and physical world. It offers students the opportunity to learn the foundations of scientific knowledge and the fundamentals of scientific inquiry. Students learn how scientific hypotheses are formulated and evaluated against the findings of empirical and theoretical research. An overarching theme is for students to appreciate how scientific research informs our understanding of the natural world, from the history of our Universe to the continued survival of our own species.

## Science Requirement Learning Outcomes

The Committee on Science Instruction, which is responsible for all matters related to the science requirement and for providing leadership on matters related to undergraduate science education, further articulated five broad categories of learning objectives, organized by the following guiding questions:

1. *What knowledge has fundamentally shaped our understanding of the workings of the natural world? (scientific knowledge base)*
  - a. Understand and compare key concepts, theories, and perspectives across multiple disciplines within the natural sciences.
  - b. Identify contemporary and enduring questions in science. Explain the importance of equity, inclusion, and ethics in investigating these questions.
  - c. Describe the iterative, often non-linear nature of the scientific process.
  - d. Describe current theories, models, and empirical methods across multiple disciplines that are the bases for accumulating scientific knowledge.
2. *What are the core elements of fundamental and applied scientific research? (scientific research and application)*
  - a. Identify and develop testable scientific hypotheses, recognizing and being able to explain the interplay among observations, experiments, and hypothesis foundation.
  - b. Test scientific hypotheses using theoretical, simulation, and both observational and experimental empirical methods.



- c. Explain the importance of units, scale, and quantitative approaches in analyzing empirical data and hypothesis testing.
- d. Describe the importance of uncertainties in interpreting findings.

**3. *How does one understand science? (scientific reasoning)***

- a. Recognize what qualifies as scientific evidence that supports or refutes scientific hypotheses.
- b. Evaluate different types of evidence, e.g., discriminating between causal and correlational evidence.
- c. Describe what constitutes strengths and weaknesses in research design.

**4. *How does one use data and evidence to draw conclusions about the natural world? (data literacy)***

- a. Describe how data-driven descriptive and inferential statistics are important to scientific reasoning.
- b. Apply basic statistical methods to analyze data.
- c. Develop an understanding of probability and how concepts of probability can be used in scientific research.
- d. Assess the plausibility of results or claims by making estimates using back-of-the-envelope calculations, clarifying assumptions, and comparing values by orders of magnitude.
- e. Describe the importance and utility of incorporating computing into scientific learning/research.

**5. *How does one communicate science and use it for decision-making? (science communication and public policy)***

- a. Analyze one or more articles from the scientific literature and be able to explain the motivation, objectives, and conclusions of the study.
- b. Analyze the importance of equations, tables, figures, or other material in supporting authors' claims in scientific articles.
- c. Evaluating the accuracy of science coverage in popular media using primary scientific literature.
- d. Critique the use of scientific information in scientific development and in public-policy decision-making, describing appropriate and ethical uses of scientific evidence.

- e. Generate an oral or written communication about a scientific study or body of scientific knowledge for an audience without that disciplinary expertise.

## Science Requirement

To fulfill the science requirement, students must successfully complete three courses selected from the following Columbia departments or from the list of approved courses below, no more than two of which should be from the same department:

- Astronomy
- Biological Sciences
- Chemistry
- Earth and Environmental Sciences
- Ecology, Evolution, and Environmental Biology
- Physics
- Psychology (Columbia department only, excluding courses numbered at the 2600, 3600, or 4600 level)

When choosing a science course, students should make sure they have reviewed and met the specified prerequisites for the course prior to enrollment.

Students who are considering careers in science-related fields, including health-related professions, are urged to begin their study of science within the first two semesters after matriculation at GS.

Students who matriculated in spring 2023 or earlier may also use international high school leaving exams for which they received at least three transfer credits on the Entrance Credit Report (ECR) in one of the disciplines listed above to fulfill **one** of the three science requirement courses. Students who matriculate in fall 2023 and later will not be able to receive science credit for international leaving exams.

## List of Approved Science Courses

The list of approved courses that fulfill the science requirement includes recommended sequences, science courses for non-science majors, and approved courses from departments not listed above and Barnard.

The following two courses may satisfy both the quantitative reasoning (QR) requirement and one science requirement when passed with a letter-grade of C or above. The P/D/F grading option is not available for either of these two courses.

- Foundations of Science (SCNC UN1212)  
Using modern, student-centered, active and collaborative learning techniques, students will engage — through field observations, in-class experiments, computer simulations, and selected readings — with a range of ideas and techniques designed to integrate and anchor scientific habits of mind. Topics covered will include statistics,

basic probability, a variety of calculations skills, graph reading and estimation, all aimed at elucidating such concepts as energy, matter, cells, and genes in the context of astronomy, biology, chemistry, earth sciences, neuroscience, and physics.

• **FRONTIERS OF SCIENCE (SCNC CC1000)**

The principal objectives of Frontiers of Science are to engage students in the process of discovery by exploring topics at the forefront of science and to inculcate or reinforce the specific habits of mind that inform a scientific perspective on the world. Sample topics include the evolution of human language, brain dynamics, global climate change, the nanoworld, and biodiversity, among others. On Mondays throughout the semester, some of Columbia's leading scientists present a mini-series of lectures. During the rest of the week, senior faculty and Columbia postdoctoral science fellows lead seminar sections to discuss the lecture and its associated readings, and to debate the implications of the most recent scientific discoveries.

GS students interested in taking Frontiers of Science should have earned a minimum score of 16 on the GS Quantitative Reasoning Exam and/or meet the specific criteria listed in the Quantitative Reasoning section of the website by the specified timelines.

## Courses Designed For Nonscience Majors

### Astronomy

ASTR UN1234	UNIVERSAL TIMEKEEPER
ASTR UN1403	EARTH, MOON, AND PLANETS
ASTR UN1404	STARS, GALAXIES # COSMOLOGY
ASTR UN1420	Galaxies and Cosmology
ASTR UN1453	ANOTHER EARTH
ASTR UN1610	THEOR-UNIVERS:BABYLON-BIG BANG
ASTR UN1836	STARS AND ATOMS
ASTR BC1753	LIFE IN THE UNIVERSE
ASTR BC1754	Stars, Galaxies, and Cosmology

Recommended Sequences:

ASTR UN1403 & ASTR UN1404	EARTH, MOON, AND PLANETS and STARS, GALAXIES # COSMOLOGY
ASTR UN1403 & ASTR UN1420	EARTH, MOON, AND PLANETS and Galaxies and Cosmology
ASTR UN1403 & ASTR UN1836	EARTH, MOON, AND PLANETS and STARS AND ATOMS
ASTR UN1403 & ASTR BC1754	EARTH, MOON, AND PLANETS and Stars, Galaxies, and Cosmology

ASTR BC1753 & ASTR UN1404	LIFE IN THE UNIVERSE and STARS, GALAXIES # COSMOLOGY
ASTR BC1753 & ASTR BC1754	LIFE IN THE UNIVERSE and Stars, Galaxies, and Cosmology

### Biology

BIOL UN1002	Theory and Practice of Science: Biology
BIOL UN1130	GENES AND DEVELOPMENT
BIOL UN2300	Interpreting Scientific Evidence

### Computer Science

COMS W1001	Introduction to Information Science
COMS W1002	COMPUTING IN CONTEXT

### Earth and Environmental Engineering

EAEE E2100	A BETTER PLANET BY DESIGN
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### Earth and Environmental Sciences

EESC UN1001	DINOSAURS AND HISTORY OF LIFE
EESC UN1003	Climate and Society: Case Studies
EESC UN1011	Earth: Origin, Evolution, Processes, Future
EESC UN1030	OCEANOGRAPHY
EESC UN1053	Planet Earth
EESC UN1201	Environmental Risks and Disasters
EESC UN1401	DINOSAUR # HISTORY OF LIFE-LEC
EESC UN1411	Earth: Origin, Evolution, Processes, Future: Lectures
EESC UN2330	SCIENCE FOR SUSTAINABLE DEVPT

### Ecology, Evolution, and Environmental Biology

EEEB W1001	Biodiversity
EEEB UN1010	HUMAN ORIGINS # EVOLUTION
EEEB UN1011	BEHAVIOR BIOL-LIVING PRIMATES
EEEB S1115S	The Life Aquatic

Recommended Sequences:

EEEB UN1001 & EEEB UN3087	Biodiversity and CONSERVATION BIOLOGY
EEEB UN1010 & EEEB UN1011	HUMAN ORIGINS # EVOLUTION and BEHAVIOR BIOL-LIVING PRIMATES

### Electrical Engineering

ELEN E1101	THE DIGITAL INFORMATION AGE
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### Food Studies

FSEB UN1020	Food and the Body
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FSPH UN1100 FOOD, PUBLIC HEALTH #  
PUBLIC POLICY

### Philosophy

PHIL UN3411 SYMBOLIC LOGIC  
PHIL GU4424 MODAL LOGIC

### Physics

PHYS UN1001 PHYSICS FOR POETS  
PHYS UN1018 WEAPONS OF MASS  
DESTRUCTION

#### Recommended Sequences:

PHYS UN1001 PHYSICS FOR POETS  
& PHYS C1002 and Physics for Poets

### Psychology\*\*

Columbia Department only:

PSYC UN1001 THE SCIENCE OF  
PSYCHOLOGY  
PSYC UN1010 Mind, Brain and Behavior  
(Effective Fall 2018, this course  
is no longer offered. For students  
who took this course before Fall  
2018, it may be used to partially  
satisfy the Science Requirement.)  
PSYC UN1021 Science of Psychology:  
Explorations and Applications

### Science

SCNC UN1212 Foundations of Science  
SCNC UN1800 ENERGY # ENERGY  
CONSERVATION

### Statistics

STAT UN1001 INTRO TO STATISTICAL  
REASONING  
STAT UN1010 Statistical Thinking For Data  
Science

\* **Note:** Students electing to take Human Origins  
and Evolution ([EEEEB UN1010](#)) and Behavioral  
Biology of the Living Primates ([EEEEB UN1011](#)) as  
a sequence are recommended, but not required, to  
take [EEEEB UN1010](#) before [EEEEB UN1011](#).

\*\***Note:** 2600-, 3600-, or 4600-level psychology courses  
may not be used to fulfill the science requirement.

\***Note:** The Science of Psychology ([PSYC UN1001](#))  
or an equivalent introductory course approved by the  
Psychology Department must be taken as a prerequisite to  
any psychology course numbered 22xx or 24xx.

\***Note:** Students may not receive credit for both PSYC BC 1101  
and PSYC UN 1001. Psychology majors should consult  
the Psychology department for additional restrictions on  
overlapping courses.

## Additional Courses Approved for the Science Requirement

Most of the following courses have required prerequisites  
and/or require instructor approval. Prerequisite and

instructor approval requirements can be found in the course  
descriptions for each course or on the department website.

### Astronomy

Any 3-point course numbered 2000 or higher

### Biology

Any 3-point course numbered 2000 or higher

### Chemistry

CHEM UN1403 GENERAL CHEMISTRY I-  
LECTURES  
CHEM UN1404 GENERAL CHEMISTRY II-  
LECTURES  
CHEM UN1500 GENERAL CHEMISTRY  
LABORATORY  
CHEM UN1604 2ND TERM GEN CHEM  
(INTENSIVE)  
CHEM UN2507 Intensive General Chemistry  
Laboratory

Any 3-point course numbered 3000 or higher

### Computer Science

COMS W1004 Introduction to Computer  
Science and Programming in  
Java  
COMS W1005 Introduction to Computer  
Science and Programming in  
MATLAB  
ENGI E1006 INTRO TO COMP FOR ENG/  
APP SCI

### COMS W1007

COMS W2132 Intermediate Computing in  
Python

Any 3-point course numbered 3000 or higher

### Computing Science - Philosophy (CSPH)

CSPH G4801  
CSPH G4802 Math Logic II: Incompleteness

### Earth and Environmental Sciences

EESC UN2100 EARTH'S ENVIRO SYST:  
CLIM SYST  
EESC UN2200 EARTH'S ENVIRONMENTAL  
SYSTEMS: THE SOLID  
EARTH  
EESC UN2300 EARTH'S ENVIRO SYST: LIFE  
SYST

Any 3-point course numbered 3000 or higher

### Ecology, Evolution, and Environmental Biology

EEEEB UN2001 ENVIRONMENTAL BIOLOGY  
I  
EEEEB UN2002 ENVIRONMENTAL BIOLOGY  
II  
EEEEB OC2201 Venice Ecology and  
Sustainability  
EEEEB UN3087 CONSERVATION BIOLOGY  
(Any 3-point course  
numbered 3000 or higher  
except EEEB GU4321 or  
EEEEB GU4700)

**History-Applied Math**

HSAM UN2901	DATA:PAST, PRESENT AND FUTURE
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**Linguistics**

LING UN3103	Language, Brain and Mind
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**Mathematics**

Any 3-point course numbered 1100 or higher

**Physics**

PHYS UN1201	GENERAL PHYSICS I
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PHYS UN1202	GENERAL PHYSICS II
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PHYS UN1401	INTRO TO MECHANICS # THERMO
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PHYS UN1402	INTRO ELEC/MAGNETISM # OPTCS
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PHYS UN1403	INTRO-CLASSCL # QUANTUM WAVES
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PHYS UN1601	PHYSICS I:MECHANICS/ RELATIVITY
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PHYS UN1602	PHYSICS II: THERMO, ELEC # MAG
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Any 3-point course numbered 2000 or higher

**Psychology\***

Any 3-point course numbered 22xx, 24xx, 32xx, 34xx, 42xx, or 44xx \*\*

**Statistics**

Any 3-point course except STAT W3997

\* **Note:** 2600-, 3600-, or 4600-level psychology courses may not be used to fulfill the science requirement.

\*\***Note:** These courses may serve as a second term of a recommended sequence starting with The Science of Psychology (PSYC UN1001).

## CORE REGISTRATION AND PETITIONS

All students are strongly encouraged to consult their academic advisors before making any decisions regarding their Core registration. Registration for Core courses takes place online during the regular course registration periods.

### CORE PETITIONS

If students are unable to enroll in a section of Art Humanities, Contemporary Civilization, Frontiers of Science, Literature Humanities, or Music Humanities via SSOL, they may file a Core petition online. The Core registration period for the 2024-2025 academic year are:

- **Fall 2024:** 12:00 a.m. EST, September 3 through 11:59 p.m. EST, September 5
- **Spring 2025:** 12:00 a.m. EST, Tuesday, January 21 through 11:59 p.m. EST, Thursday, January 23

The [Core Petition Form](#) will become available during the Fall and Spring petition period windows.

The last day to drop a Core class is the Friday of the second week of classes. Please visit the [GS Academic Calendar](#) for specific dates.

## UNIVERSITY WRITING

Students are advised not to contact University Writing professors directly as sections cannot be modified by course instructors.

## LITERATURE HUMANITIES AND CONTEMPORARY CIVILIZATION

Students enrolled in Literature Humanities or Contemporary Civilization in the fall will have their registration automatically rolled over into the spring semester by the Registrar.

GS students may petition to enroll in Columbia College sections of Literature Humanities and Contemporary Civilization by writing to [gsacademicaffairs@columbia.edu](mailto:gsacademicaffairs@columbia.edu).

## MAJORS, MINORS, AND OTHER PROGRAMS OF STUDY

Columbia University School of General Studies offers the following majors and other programs of study. GS students must complete a major to receive a bachelor's degree. Most GS students graduate with one major.

Occasionally, students may opt to pursue two majors. Or students may opt to pursue a minor, in addition to their major. Minors provide students the opportunity to focus some of their elective coursework on exploring a secondary field of interest. Many academic departments offer both a major and a minor.

### Majors

GS students may choose their majors from the following areas of study.

- [African-American Studies](#) (p. 40)
- [American Studies](#) (p. 43)
- [Ancient Studies](#) (p. 45)
- [Anthropology](#) (p. 49)
- [Applied Mathematics](#) (p. 52)
- [Archaeology](#) (p. 68)
- [Architecture](#) (p. 73)
- [Art History](#) (p. 87)
- [Art History and Visual Arts](#) (p. 93)
- [Astronomy](#) (p. 97)

- Astrophysics (p. 101)
- Biochemistry (p. 105)
- Biology (p. 115)
- Biophysics (p. 126)
- Chemical Physics (p. 139)
- Chemistry (p. 148)
- Classics (p. 157)
- Climate and Sustainability
- Climate System Science
- Cognitive Science (p. 167)
- Comparative Literature and Society (p. 173)
- Computational Biology
- Computer Science (p. 179)
- Computer Science-Mathematics (p. 186)
- Creative Writing (p. 203)
- Dance (p. 205)
- Data Science (p. 209)
- Drama and Theatre Arts (p. 217)
- Earth Science (p. 224)
- East Asian Studies (p. 238)
- Economics (p. 243)
- Economics-Mathematics (p. 261)
- Economics-Philosophy (p. 278)
- Economics-Political Science (p. 296)
- Economics-Statistics (p. 314)
- English (p. 336)
- Environmental Biology (p. 341)
- Environmental Chemistry (p. 349)
- Environmental Science (p. 358)
- Ethnicity and Race Studies (p. 372)
- Evolutionary Biology of the Human Species (p. 376)
- Film and Media Studies (p. 384)
- Financial Economics (p. 387)
- French (p. 404)
- French and Francophone Studies (p. 410)
- German Literature and Cultural History (p. 417)
- Hispanic Studies (p. 427)
- History (p. 432)
- History and Theory of Architecture (p. 80)
- Human Rights (p. 439)
- Information Science (p. 442)
- Italian (p. 450)
- Latin American and Caribbean Studies (p. 462)
- Linguistics (p. 471)
- Mathematics (p. 476)
- Mathematics-Statistics (p. 493)
- Medical Humanities
- Middle Eastern, South Asian, and African Studies (p. 511)

- Music (p. 525)
- Neuroscience and Behavior (p. 530)
- Philosophy (p. 543)
- Physics (p. 548)
- Political Science (p. 553)
- Political Science-Statistics (p. 563)
- Psychology (p. 578)
- Regional Studies (p. 592)
- Religion (p. 593)
- Russian Language and Culture (p. 595)
- Russian Literature and Culture (p. 602)
- Slavic Studies (p. 608)
- Sociology (p. 614)
- Statistics (p. 616)
- Sustainable Development (p. 624)
- Urban Studies (p. 635)
- Visual Arts (p. 638)
- Women's and Gender Studies (p. 642)
- Yiddish Studies (p. 646)

## Minors

The following programs are offered as minor programs of study.

- African-American Studies (p. 40)
- American Studies (p. 43)
- Anthropology (p. 49)
- Archaeology (p. 68)
- Architecture (p. 73)
- Art History (p. 87)
- Biology (p. 115)
- Catalan
- Chemistry (p. 148)
- Classics (p. 157)
- Climate System Science
- Computer Science (p. 179)
- Dance (p. 205)
- Drama and Theatre Arts (p. 217)
- Earth and Environmental Science (p. 224)
- Earth and Space
- East Asian Studies (p. 238)
- Ecology, Evolution, and Environmental Biology
- Education Studies
- English
- Film and Media Studies (p. 384)
- French and Francophone Studies (p. 410)
- German
- German Thought and Critical Theory
- Hispanic Cultures



- Hellenic Studies
- History (p. 432)
- History and Theory of Architecture (p. 80)
- Human Rights (p. 439)
- Italian (p. 450)
- Jewish Studies (p. 459)
- Latin American and Caribbean Studies (p. 462)
- Linguistics (p. 471)
- Mathematics (p. 476)
- Mathematical Probability
- Medieval and Renaissance Studies
- Mediterranean Studies
- Modern Greek, Language, Literature, and Culture
- Music (p. 525)
- Political Science (p. 553)
- Portuguese (p. 572)
- Religion (p. 593)
- Science and Society
- Slavic and Eastern European Culture
- Slavic and Eastern European Language and Culture
- Sociology (p. 614)
- Statistics (p. 616)
- Sustainable Development (p. 624)
- Visual Arts (p. 638)
- Women's and Gender Studies (p. 642)
- Yiddish Studies (p. 646)

## Special Programs

The following areas of study are offered exclusively as special programs.

- Business Management
- Public Health (p. 590)
- Urban Teaching

## Concentrations and Special Concentrations

Students who matriculate in Fall 2024 and thereafter have the option to pursue a minor and/or a special program, in addition to their required major.

Students who matriculated prior to Fall 2024 may have already declared or intend to declare a concentration. These programs of study are being phased out of the curriculum for GS students in the 2024-25 academic year. Students who matriculated prior to Fall 2024 will still be able to declare concentrations if they so choose, but they must do so by May 2025. After that point, GS students will no longer be able to declare concentrations. Students who matriculate in Fall 2024 and thereafter may not declare concentrations.

Students who matriculated prior to Fall 2024 may have already declared or intend to declare a special concentration.

Special concentrations that were developed in partnership with Columbia's professional schools or affiliated programs, e.g., in Business Management and Public Health, will be renamed special programs starting in Fall 2024. Other special concentrations will be phased out and, in many cases, minors in these areas will be offered instead. However, as with the concentration, students who matriculated prior to Fall 2024 will still have the option to declare special concentrations in these areas but must do so by May 2025. Students who matriculate in Fall 2024 and thereafter may not declare special concentrations.

The following programs have been offered as concentrations and special concentrations and will continue to be available to students who matriculated before Fall 2024. Many of these programs now offer minors, and continuing students who have not already declared these concentrations may find it makes more sense to declare minors in these areas, as minors tend to be smaller programs of study. These continuing students who have not already declared concentrations or special concentrations must do so before May 2025.

- African-American Studies
- American Studies
- Anthropology
- Applied Mathematics
- Archaeology
- Art History
- Astronomy
- Biology
- Chemistry
- Classics
- Comparative Literature and Society
- Computer Science
- Dance
- Earth Science
- East Asian Studies
- Economics
- Education
- English
- Environmental Biology
- Environmental Science
- Ethnicity and Race Studies

- [Evolutionary Biology of the Human Species](#)
- [French](#)
- [French and Francophone Studies](#)
- [German Literature and Cultural History](#)
- [Hispanic Studies](#)
- [History](#)
- [History and Theory of Architecture](#)
- [Human Rights](#)
- [Italian](#)
- [Jazz Studies](#)
- [Jewish Studies](#)
- [Latin American and Caribbean Studies](#)
- [Linguistics](#)
- [Mathematics](#)
- [Medieval and Renaissance Studies](#)
- [Middle Eastern, South Asian, and African Studies](#)
- [Modern Greek Studies](#)
- [Music](#)
- [Philosophy](#)
- [Physics](#)
- [Political Science](#)
- [Portuguese Studies](#)
- [Psychology](#)
- [Religion](#)
- [Russian Language and Culture](#)
- [Russian Literature](#)
- [Russian Literature and Culture](#)
- [Slavic Studies](#)
- [Sociology](#)
- [Statistics](#)
- [Sustainable Development](#)
- [Visual Arts](#)
- [Women's and Gender Studies](#)

- [Yiddish Studies](#)

## AFRICAN-AMERICAN STUDIES

### THE AFRICAN AMERICAN AND AFRICAN DIASPORA STUDIES DEPARTMENT:

**African American and African Diaspora Studies:** 758 Schermerhorn Extension; 212-854-7080; <https://afamstudies.columbia.edu/>

**Chair, African American and African Diaspora Studies:** Professor Mabel O. Wilson, [mow6@columbia.edu](mailto:mow6@columbia.edu)

**Director of Undergraduate Studies:** Professor Farah Jasmine Griffin; [fjg8@columbia.edu](mailto:fjg8@columbia.edu)

**Director of Academic Administration and Finance:** Shawn Mendoza; [s.mendoza@columbia.edu](mailto:s.mendoza@columbia.edu) ([sm322@columbia.edu](mailto:sm322@columbia.edu))

**Administrative Assistant:** Sharon Harris; [sh2004@columbia.edu](mailto:sh2004@columbia.edu)

### THE STUDY OF AFRICAN AMERICAN AND AFRICAN DIASPORA STUDIES

The African American studies curriculum explores the historical, cultural, social, and intellectual contours of the development of people of African descent. The curriculum enables students to master the basic foundations of interdisciplinary knowledge in the humanities and social sciences in the Courses examine the cultural character of the African diaspora; its social institutions and political movements; its diversity in thought, belief systems, and spiritual expressions; and the factors behind the continuing burden of racial inequality. During their junior and senior years of study, students focus their research within a specific discipline or regional study relevant to the African diaspora.

Students should consider a major in African American and African Diaspora studies if they are interested in careers where strong liberal arts preparation is needed, such as fields in the business, social service, or government sectors. Depending on one's area of focus within the major, the African American and African Diaspora studies program can also prepare individuals for career fields like journalism, politics, public relations, and other lines of work that involve investigative skills and working with diverse groups. A major in African American and African Diaspora studies can also train students in graduate research skills and methods, such as archival research, and is very useful for individuals

who are considering an advanced graduate degree such as the Ph.D.

## DEPARTMENTAL HONORS

The requirements for departmental honors in African American and African Diaspora studies are as follows:

1. All requirements for major must be completed by graduation date;
2. Minimum GPA of 3.6 in the major;
3. Completion of senior thesis—due to the director of undergraduate studies on the first Monday in April.

A successful thesis for departmental honors must be selected as the most outstanding paper of all papers reviewed by the thesis committee in a particular year. The Thesis Evaluation Committee is comprised of department faculty and led by the director of undergraduate studies. The thesis should be of superior quality, clearly demonstrating originality and excellent scholarship, as determined by the committee. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

## THE AFRICAN AMERICAN AND AFRICAN DIASPORA STUDIES DEPARTMENT THESIS

Although the senior thesis is a prerequisite for consideration for departmental honors, all African American and African Diaspora studies majors are strongly encouraged to consider undertaking thesis work even if they are ineligible or do not wish to be considered for departmental honors. The senior thesis gives undergraduate majors the opportunity to engage in rigorous, independent, and original research on a specific topic of their choosing, the result of which is a paper of 35-60 pages in length.

The senior thesis must be written under the supervision of at least one faculty member. Should the thesis writer elect to have more than one thesis adviser (either from the outset or added on during the early stages of research), these faculty in the aggregate comprise the Thesis Committee, of which one faculty member must be designated chair. In either case, it is incumbent upon the thesis writer to establish with the thesis chair and committee a reasonable schedule of deadlines for submission of outlines, chapters, bibliographies, drafts, etc.

In many cases, thesis writers may find that the most optimal way in which to complete a thesis is to formally enroll in an AFAS independent study course with their thesis adviser as the instructor. **All third year students interested in writing a thesis should notify the director of undergraduate studies and submit the name of the faculty adviser ideally by October 1, but certainly no later than the end of the fall semester of their junior year.** In close consultation with the thesis adviser, students develop a viable topic, schedule

of meetings, bibliography, and timeline for completion (including schedule of drafts and outlines).

## DEPARTMENTAL PRIZES

### Ralph Johnson Bunche Award for Leadership and Service

The Bunche Award recognizes an undergraduate who has demonstrated a tremendous capacity for leadership and provided distinguished service to the Institute for Research in African American Studies.

The award is named in honor of Ralph Johnson Bunche (1901-1971), the highest American official in the United Nations. For his conduct of negotiations leading to an armistice in the First Arab-Israeli War, he received the Nobel Peace Prize in 1950; he was the first African American recipient of this honor.

### Ella Baker Award for Outstanding Academic Achievement

The Ella Baker Prize is awarded annually to an undergraduate who has demonstrated academic excellence, intellectual commitment to the field of African American Studies and who has written a thesis that advances our understanding of the African American experience.

The award is named for the brilliant activist, organizer, leader and Harlem resident, Ella Baker. Baker served as a field secretary for the NAACP before organizing the Southern Christian Leadership Conference under the leadership of Dr. Martin Luther King. Following her departure from SCLC she helped student activists organize the Student Non-violent Coordinating Committee. She would serve as an important mentor to these young people throughout the rest of her life.

## SENIOR FACULTY

Jafari Allen (African American and African Diaspora Studies)

Edwidge Danticat (African American and African Diaspora Studies)

Farah J. Griffin (English and Comparative Literature)

Frank Guridy (History)

Kellie E. Jones (Art History and Archaeology)

Samuel K. Roberts (History)

Josef Sorett (Religion)

Brandi T. Summers (African American and African Diaspora Studies)

Mabel O. Wilson (Architecture, Planning and Preservation)

### **Junior Faculty**

Nyle Fort (African American and African Diaspora Studies)

Rachel Grace Newman (African American and African Diaspora Studies)

## **RESEARCH FELLOWS**

Vanessa Argard-Jones (Anthropology)  
 Fredrick C. Harris (Political Science)  
 Racquel Gates (School of the Arts)  
 Carl Hart (Psychology)  
 Obery Hendricks (Religion/African-American Studies)  
 David Knight (Sociology)  
 Colin Wayne Leach (Psychology and Africana Studies, Barnard College)  
 Natasha Lightfoot (History)  
 Mignon Moore (Sociology - Barnard)  
 Robert O'Meally (English and Comparative Literature)  
 Kimberly Springer (Rare Book & Manuscript Library, Columbia University)

## **AFFILIATED FACULTY**

Belinda Archibong (Economics)  
 Christopher Brown (History)  
 Maguette Camara (Dance - Barnard)  
 Mamadou Diouf (Middle Eastern, South Asian, and African Studies)  
 Ann Douglas (English and Comparative Literature)  
 Barbara Fields (History)  
 Saidiya Hartman (English and Comparative Literature)  
 Ousmane Kane (School of International and Public Affairs)  
 Rashid Khalidid (History)  
 George E. Lewis (Music)  
 Mahmood Mamdani (Anthropology)  
 Gregory Mann (History)  
 David Scott (Anthropology)  
 Susan Strum (Law School)

## **IN MEMORIAM**

Marcellus Blount  
 Steven Gregory  
 Manning Marable, founder of IRAAS

## **GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT**

### **Governed Electives**

The "governed electives" category must include courses from at least three different departments, providing an interdisciplinary background in the field of African-American Studies. (Note: you cannot count one of your governed electives within your designated area of study).

### **Designated Area of Study**

A Designated Area of Study, preferably within a distinct discipline (for example, history, politics, sociology, literature, anthropology, psychology, etc.). Students may also

select courses within a particular geographical area or region or an interdisciplinary field of study.

Any of the departmental disciplines (history, political science; sociology, anthropology, literature, art history; psychology, religion, music, etc.)

Any of the pertinent area studies (African Studies; Caribbean/Latin American; Gender Studies; etc.).

Please note that the major/concentrator is not allowed to "create" or "make up" a designated area of study without the direct approval of the Director of Undergraduate Studies, and that such approval must be sought before the student has embarked on the course of designated area of study, and that such approval will be granted only in very rare and exceptional cases. Under no circumstances should the major/concentrator hope to take a series of courses only later to "create" a Designated Area of Study around these courses.

## **UNDERGRADUATE PROGRAMS OF STUDY**

### **Major in African American and African Diaspora Studies**

A minimum of twenty-seven (27) points is required for the completion of the major. The major should be arranged in consultation with the director of undergraduate studies. Students interested in majoring should plan their course of study no later than the end of their sophomore year.

#### **Core Requirements**

All majors must complete to satisfaction the core required courses. The core requirements are:

- (1) Introduction to African-American Studies - 4 Points
- (2) Major Debates in African-American Studies - 4 Points
- (3) Governed Elective - 4 Points
- (4) Governed Elective - 4 Points
- (5) Senior Seminar - 4 Points
- (6) Designated Area of Study Course (DAS) - 3 Points
- (7) DAS or Senior Pro Seminar - 4 Points

### **Minor in African American and African Diaspora Studies**

The minor in African American and African Diaspora Studies requires five courses for 16-20 points.

Students are required to complete:

- (1) Introduction to African-American Studies - 4 Points
- (2) Social Science Elective
- (3) Humanities Elective
- (4) Designated Area of Study Course (DAS)
- (5) Designated Area of Study Course (DAS)

Students should consult with the DUS for assistance in designing their minor as soon as they declare. Introduction

to African American Studies should be taken as early as possible since it provides the basic foundation for both the major and minor and introduces other areas of study; some students will have taken it prior to declaring the minor. The Social Science and Humanities electives are designed to give students a sense of interdisciplinary breadth. The designated area of study courses will give them the intellectual depth in a subfield, subject or geographic area and many be taken as they advance in the minor.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in African American and African Diaspora Studies

A minimum nineteen (19) points is required for the completion of the concentration.

#### Core Requirements

All concentrators must complete to satisfaction the core required courses. The core requirements are:

- (1) Introduction to African-American Studies - 4 Points
- (2) Governed Elective - 4 Points
- (3) Governed Elective - 4 Points
- (4) Senior Seminar - 4 Points
- (5) Designated Area of Study Course (DAS) - 3-4 Points

## AMERICAN STUDIES

### AMERICAN STUDIES DEPARTMENT:

Department website: <https://americanstudies.columbia.edu/>

Office location: 319-321 Hamilton; 212-854-6698

Office contact: 212-854-6698,  
[americanstudies@columbia.edu](mailto:americanstudies@columbia.edu)

Director: Prof. Hilary Hallett, 319 Hamilton; 212-854-6698;  
[hah2117@columbia.edu](mailto:hah2117@columbia.edu)

Assistant Director: Michael Gately, 319 Hamilton;  
212-854-6544; [mg3898@columbia.edu](mailto:mg3898@columbia.edu)

Associate Director: Robert Amdur, 311 Hamilton;  
212-854-4049; [rla2@columbia.edu](mailto:rla2@columbia.edu)

Administrative Assistant: Arelis Herrera, 319 Hamilton;  
212-854-6698; [ah3115@columbia.edu](mailto:ah3115@columbia.edu)

## THE STUDY OF AMERICAN STUDIES

The Center for American Studies offers students the opportunity to explore the experiences and values of the

people of the United States as embodied in their history, literature, politics, art, and other enduring forms of cultural expression. The Center views civic education as its primary mission, sponsoring seminars and public programs that enhance students' understanding of the fundamental ideas and vocabulary of public discourse in American culture, history, and politics. The Center is the institutional home of the American Studies program, which offers an interdisciplinary, seminar-based curriculum designed to be open and flexible while preparing students for a life of active citizenship.

## STUDENT ADVISING

Each American Studies major or concentrator chooses an academic adviser who monitors their progress through graduation. Students work with advisors to develop programs tailored to their particular interests. Advisors approve Plan of Study forms and provide general guidance regarding the major and concentration. Each student is expected to meet with an advisor at least once a semester.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Senior Research Project

The final requirement for the major in American Studies is completion of a senior essay, to be submitted in the spring of senior year.

Alternatively, students may fulfill this requirement by taking an additional seminar in which a major paper is required or by writing an independent essay under the supervision of a faculty member. Seniors who wish to do a senior research project are required to take the Senior Project Colloquium the fall of the senior year.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Students with a 3.6 minimum GPA in the major and an outstanding senior project are considered for honors. Normally no more than 10% of graduating majors receive departmental honors in a given year.

### Academic Prizes

- Best Senior Thesis in American Studies
- Shenton Award; Outstanding Community Service

## SEMINAR FACULTY

- Hilary A. Hallett
- Roosevelt Montás
- Casey N. Blake
- Lynne Breslin



- Ryan Carr
- Jeremy A. Dauber
- Andrew Delbanco
- Michael Hindus
- Roger Lehecka
- Paul Levitz
- Mark Lilla
- Thai S. Jones
- John H. McWhorter
- Valerie Paley
- Robert Pollack
- Ross Posnock
- Cathleen Price
- Benjamin Rosenberg
- James Shapiro
- Maura Spiegel

#### Affiliated Faculty

- Rachel Adams (English and Comparative Literature)
- Robert Amdur (Political Science)
- Courtney Bender (Religion)
- George A. Chauncey (History)
- Racquel Gates (Film and Media Studies)
- Farah Jasmine Griffin (English and Comparative Literature)
- Frank A. Guridy (History)
- Richard R. John (Journalism)
- Ira I. Katznelson (Political Science and History)
- Rebecca A. Kobrin (History)
- Michele M. Moody-Adams (Philosophy)
- Mae Ngai (Asian American Studies and History)
- Ross Posnock (English and Comparative Literature; American Studies)
- Shana L. Redmond (English and Comparative Literature)
- James Shapiro (English and Comparative Literature)
- Michael J. Witgen (History)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Students may choose American Studies as an undergraduate major or a concentration. A minimum of 9 courses is required to complete the major, 7 courses to complete the concentration. Coursework for both consists of a combination of required courses (see degree requirements below) and an individualized program of study.

Although students generally declare their major or concentration in the spring of their sophomore year, you may

want to take electives early on in areas that interest you but that will later connect with the American Studies major.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in American Studies

A minimum of nine courses is required to complete the major. Please note that as of January 2018 Major requirements have changed, beginning with the Class of 2020. Please consult with the department if there are any questions.

#### Two American Studies Core courses.

The following two courses are ordinarily required:

AMST UN1010	INTRO TO AMERICAN STUDIES
HIST UN2478	US INTELLECTUAL HIST 1865-PRES
or AMST UN3930	Topics in American Studies

Please note, the AMST UN3930 section MUST be Freedom and Citizenship in the U.S. to count towards the core course requirement

#### Two seminars in American Studies

AMST UN3930	Topics in American Studies
AMST UN3931	Topics in American Studies

#### Additional Courses

Four courses drawn from at least two departments, one of which must be in History and one of which must deal primarily with some aspect of American experience before 1900. (A course in U.S. History before 1900 would fulfill both requirements.)

#### Senior Research Project

The final requirement for the major in American Studies is completion of a senior essay, to be submitted in the spring of senior year. Alternatively, students may fulfill this requirement by taking an additional seminar in which a major paper is required or by writing an independent essay under the supervision of a faculty member. Seniors who wish to do a senior research project are required to take the Senior Project Colloquium AMST UN3920 in the fall of the senior year.

### Minor in American Studies

A minimum of five courses is required to complete the minor. Minors will be required to take the core introductory course required for Majors, one American Studies seminar, and three additional courses:

#### One American Studies Core course

Minors are required to take the core lecture course  
AMST UN1010 INTRO TO AMERICAN STUDIES

This course is an interdisciplinary exploration of the values and cultural expressions of the people of the United States from the Puritans to our own time. Students will examine a variety of works in literature, history, and cultural criticism,

with an eye to understanding how Americans of different backgrounds, living at different times and in different locations, have understood and argued about the meaning and significance of American national identity. Lectures and readings will give particular attention to the sites—real and imagined—where Americans have identified the promise and perils of American life. Two lectures each week and a required weekly discussion section.

### One seminar in American Studies

Chosen from among the 3000-level AMST seminars. Normally, eight or nine seminars are offered each semester.

Recent offerings include:

The Supreme Court in American History  
 Shakespeare in America  
 American Jewish Literature  
 Freedom and Citizenship in the United States  
 Douglass and Lincoln  
 Gender History and American Film  
 American Cultural Criticism  
 Immigrant New York  
 The Problem of Class in American Literature and Culture  
 A Tale of Two Cities: New York, San Francisco, and Urban Identity  
 Tocqueville: The American Mind  
 Race, Poverty, and American Criminal Justice  
 Equity in Higher Education  
 Museums, Memory, and American Public Culture  
 Hollywood's Cinema of the 1970s  
 Languages of America  
 The Graphic Novel (AMST UN 3933)  
 Journalism and Democracy: The 2024 Election (AMST UN3937)

### Additional Courses

In addition to the introductory course and one American Studies seminar, every Minor is required to take three additional courses on American history, culture, or politics. As with our Majors, these courses can be drawn from a wide range of departments. All courses must be approved by the student's American Studies advisor. A representative list includes:

AFAS UN1001, Introduction to African American Studies  
 CSER UN3940, Comparative Study of Constitutional Challenges  
 ENGL UN2826, American Modernism  
 ENGL BC3180, American Literature, 1800-1870  
 ENGL BC3183, American Literature Since 1945  
 ENGL UN3241, African American Literature: The Essay  
 ENGL UN3351, The Family in Film and Memoir  
 ENGL UN3832, New York Intellectuals  
 HIST UN1488, Indigenous History of North America  
 HIST UN1512, The Battle for North America  
 HIST UN2432, U.S. Era of Civil War and Reconstruction  
 HIST UN2523, Health Inequality: Modern U.S.

HIST UN2533, U.S. Lesbian and Gay History  
 HIST UN2535, History of the City of New York  
 HIST UN2540, History of the South  
 HIST UN2565, American History at the Movies  
 HIST UN2587, Sports and Society in the Americas  
 HIST UN2679, The Atlantic Slave Trade  
 HIST UN3501, Indians and Empires in North America  
 HIST GU4518, Columbia University and Slavery  
 HIST GU4933, American Radicalism in the Archives  
 POLS UN1201, Introduction to American Politics  
 POLS UN3100, Justice  
 POLS UN3213, American Urban Politics  
 POLS UN3222, The American Congress  
 POLS UN3255, Race and the U.S. Carceral System  
 POLS UN3290, Voting and American Politics  
 RELI UN1612, Religion and the History of Hip Hop  
 RELI GU4217, American Religions in Extremis  
 SOCI UN3265, The Sociology of Work and Gender

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in American Studies

A minimum of 7 courses is required to complete the concentration. Please consult with the department if there are any questions.

#### Two American Studies Core courses.

The following are ordinarily required:

AMST UN1010	INTRO TO AMERICAN STUDIES
HIST UN2478	US INTELLECTUAL HIST 1865-PRES
or AMST UN3930	Topics in American Studies

Please note, the AMST UN3930 section MUST be Freedom and Citizenship in the U.S. to count towards the core course requirement

#### Additional Courses

Select five additional courses drawn from at least two departments, one of which must be in History, and one of which must deal with the period before 1900.

## ANCIENT STUDIES THE DEPARTMENT OF CLASSICS:

Department website: <https://classics.columbia.edu/>

Office location: 617 Hamilton Hall

Office contact: 212-854-3902, [classics@columbia.edu](mailto:classics@columbia.edu)  
[videogameugrad@columbia.edu](mailto:videogameugrad@columbia.edu)

Director of Undergraduate Studies: Professor Nikolas Kakkoufa, [Nk2776@columbia.edu](mailto:Nk2776@columbia.edu)

Undergraduate Administrator: Colleen Swift, [cks2142@columbia.edu](mailto:cks2142@columbia.edu)

## THE STUDY OF ANCIENT STUDIES

The Interdisciplinary Program in Ancient Studies is administered by Classics

Classics is the study of the civilizations of ancient Greece and Rome (c. 900 BCE to 500 CE): their languages, literature, history, philosophy, art, and ways of life. The purpose of this program is to enable the student to explore the cultural context of the ancient Mediterranean as a whole while concentrating on one specific Mediterranean or Mesopotamian culture. Central to the concept of the program is its interdisciplinary approach, in which the student brings the perspectives and methodologies of at least three different disciplines to bear on his or her area of specialization.

Faculty participating in the program are scholars specializing in all aspects of ancient culture and civilization from the Departments of Anthropology; Art History and Archaeology; Classics; History; Middle Eastern, South Asian, and African Studies; Philosophy; and Religion, ensuring that a wide variety of approaches are available.

## STUDENT ADVISING

### Consulting Advisers

Students should consult with the DUS who will direct them to the appropriate faculty advisor for their research interest area.

Director of Undergraduate Studies: Professor Nikolas Kakkoufa, [Nk2776@columbia.edu](mailto:Nk2776@columbia.edu)

### Enrolling in Classes

Students starting in the Major should start with the language placement exam to determine the appropriate language level for their prior knowledge. Exams are administered in late August by the Department of Classics. Students who cannot take the exam should contact the Director of Undergraduate Studies to make arrangements.

For those students who are starting the major without prior knowledge of the ancient languages please start at the beginning of the sequence (1000 level) in one of the ancient languages and speak to the Director of Undergraduate Studies to determine your best course of study.

### Preparing for Graduate Study

<https://classics.columbia.edu/preparation-for-graduate-study>

Students who are considering graduate work in Classics should be aware that because our Classics major is not a pre-professional degree, simply fulfilling the normal major

requirements will not guarantee admission to a graduate program. By far the most important element in preparation for graduate school admission is a good command of both the Latin and the Greek languages, so students who wish to go to graduate school should attempt to reach the advanced level in both languages. The two courses at the intermediate level required in the secondary language for the Classics major are not enough for admission to most graduate programs, and the language requirements of both Classical Studies and Ancient Studies are well below the level normally necessary for graduate school admission. The importance of languages holds not only for students wishing to study ancient literature, but also for those interested primarily in other aspects of the ancient world (history, art, philosophy, religion, etc.), because it is not possible to pursue advanced research successfully unless one can make use of the primary sources. Students who have not done the requisite amount of language work and wish to go to graduate school can enroll in a post-baccalaureate program (either at Columbia or at another institution) to do one or two years of intensive language work before starting graduate school.

While knowledge of Latin and Greek is the most important factor in graduate school admission, it is by no means the only one. Students considering graduate work are also advised to write a senior thesis (and not to substitute the thesis for any of the other advanced courses). If possible, it is a good idea to use some of your summers (especially the one between junior and senior year) on a relevant activity such as archaeological fieldwork experience, travel and/or study in Greece or Italy, learning French or German, improving your Latin or Greek, or working as a research assistant for a Classicist. It is also useful to get high scores on the GRE test, and these are best achieved by obtaining and studying information on the types of questions asked on the test and taking practice tests.

The department does offer a combined BA/MA program in Classics allowing them to complete the MA in Classics within one year of receiving their BA.

The array of graduate degrees on offer in the US and abroad can be bewildering—including master's and doctoral programs in Classics and a variety of related subjects—and the character and quality of graduate programs differs widely. It is therefore important to gather information and seek advice.

If you are considering graduate work, you should discuss your plans with the Director of Undergraduate Studies and other faculty members no later than the beginning of the fall semester before you hope to apply (i.e., typically the fall of your senior year).

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The department grants 3 credits for a score of 5 on the Latin AP exam, which also satisfies the foreign language requirement, upon successful completion (with a grade of B or higher) of a Latin class at the 3000-level or higher.

### Barnard College Courses

The Department of Classics at Columbia and the Department of Classics and Ancient Studies at Barnard College work closely together. Students may take courses at Barnard to count towards the Major or Minor. Students at Barnard should speak to their advisor at Barnard regarding Columbia courses as the departments are distinct and the requirements for their respective majors are different.

### Transfer Courses

Students transferring to Columbia should contact the Director of Undergraduate Studies to discuss equivalencies and what level of courses they wish to take.

### Study Abroad Courses

Seeing the ancient sites and monuments is an important part of the study of antiquity, and there are a number of ways to acquire some familiarity with the physical remains of Greek and Roman civilization. The Intercollegiate Center for Classical Studies in Rome offers in each term an excellent one-semester program, usually taken in the junior year, and the College Year in Athens offers a wide variety of courses ranging from language and literature to history, art, and archaeology. During the summer there are more options, including the outstanding Summer Sessions of the American School for Classical Studies in Athens. A listing of fieldwork opportunities is published annually by the Archaeological Institute of America.

### Summer Courses

Courses are offered over the summer by the department providing opportunities to study the ancient languages over the summer.

Courses are also offered in Classical Civilization including Worlds of Alexander and Classical Mythology.

## CORE CURRICULUM CONNECTIONS

Faulty and Graduate Instructors from the Department of Classics Teach in the Core, usually Literature Humanities and Contemporary Civilization.

Some Classics courses can be used to count toward the Global Core requirement as noted in the course information.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

Students should consult with the Director of Undergraduate Studies, Professor Nikolas Kakkoufa at [nk2776@columbia.edu](mailto:nk2776@columbia.edu). Students can register for Directed readings with a faculty member

### Senior Thesis Coursework and Requirements

Students are required to take the Major Seminar UN3996 as part of the program. The course focuses on the preparation for the Senior Thesis and methods in the field of Classics. Currently students have the option to participate in a trip abroad to sites in the ancient world.

### Undergraduate Research Outside of Courses

Students are encouraged to participate in the Ancient Play put on yearly by the Barnard Columbia Ancient Drama Group.

Columbia runs its own archeological summer program at Hadrian's Villa in Tivoli. Contact Professor Francesco de Angelis.

Students wanting Columbia or Barnard credit for work done abroad should discuss their plans with the director of undergraduate studies at an early date to enable them to incorporate experience abroad most practically into their programs here.

The Department is able to support a limited number of students to study ancient languages over the summer through the Comager Fund and the Undergraduate Latin fund. Interested students should contact the Director of Undergraduate Studies.

Undergraduate students can apply to the SNFPHI Summer Research Internship in Public Humanities and Hellenic Studies. This six week internship invites undergraduate students to explore public humanities, gain hands-on experience with its objectives, methods, and outcomes, and pursue a group project that connects research on Greece with a broad public audience. The internship is structured around: (1) a seminar in Hellenic Studies in which students explore aspects of modern Greek history and culture relevant to their internship research, (2) a workshop in which students are trained in the methods and tools of public-facing research, and (3) a group project in which students work closely with Columbia faculty and public humanities partners in Greece



## DEPARTMENT HONORS AND PRIZES

### Department Honors

Departmental Honors are awarded for overall outstanding performance in the Classics.

### Academic Prizes

The department offers two prize competitions yearly (Earle and Romaine) in sight translation of Greek and Latin. These prizes are awarded on the basis of examinations given each spring.

Two prizes are given to graduating Columbia College seniors:

- The Caverly Prize is awarded annually for outstanding performance by a graduating Columbia College major.
- The Stadler Prize is awarded annually to a graduating senior of Columbia College who is judged by the faculty to have demonstrated academic excellence through course work and the writing of a senior essay on some aspect of the history or culture of the classical world.

## OTHER IMPORTANT INFORMATION

Students interested in majoring in Ancient Studies should reach out to the Department early in their academic career. Students should contact the Director of Undergraduate Studies with any questions.

Students participating in dual degree programs should contact the Director of Undergraduate Studies.

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

The Classics department also participates in the interdepartmental Ancient Studies major, which is designed for students whose interests encompass the ancient Mediterranean as a whole rather than the Greco-Roman world in particular.

### Course Numbering Structure

In both Greek and Latin prerequisites are the course with the number before in the sequence. Students can test out of the prerequisite with a placement test or through the Director of Undergraduate Studies.

In both languages the sequence is as follows:

1101: Elementary I

1102: Elementary II

1121: Intensive Elementary

2101: Intermediate I

2102: Intermediate II

For 2101 Either 1102 or 1121 is required as a prerequisite or a placement test.

### Guidance for First-Year Students

The director of undergraduate studies is responsible for overseeing the path of study followed by each student in classics or classical studies. Through close interaction with the director of undergraduate studies, as well as with other faculty members where appropriate, each major is strongly encouraged to debate the strengths and weaknesses of his or her own trajectory of study even as the requirements for the major are being completed.

Students should contact the director of undergraduate studies with any questions about the classics majors and course offerings. The director of undergraduate studies can provide students with a worksheet to help in planning their progress toward major requirements.

### Guidance for Transfer Students

Students should contact the director of undergraduate studies with any questions about the classics majors and course offerings. The director of undergraduate studies can provide students with a worksheet to help in planning their progress toward major requirements.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in Ancient Studies

#### Major Seminar

ANCS UN3996	THE MAJOR SEMINAR
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#### Senior Thesis

ANCS UN3998	DIRCTD RSRCH-ANCIENT STUDIES I
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#### Language Study \*

Select two courses of an ancient language at or above the intermediate level, i.e., 1200-level or above.

#### Fundamental Breadth \*\*

Select two introductory courses on some aspect of the ancient Mediterranean. Some examples include:

HIST UN1010	ANCIENT GREEK HIST, 800-146 BC
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AHIS UN3248	Greek Art and Architecture
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AHIS UN3250	Roman Art and Architecture
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PHIL UN2101	HISTORY OF PHILOSOPHY I
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CLLT UN3132	Classical Myth
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#### Advanced Study



Select two advanced courses on the ancient Mediterranean, typically at the 3000- or 4000-level.

### **Cultural Concentration**

Select four courses on the culture of the language chosen, including one history course.

\* The minimum language requirement must be completed by the end of the first semester of the student's senior year, so that the student is equipped to use sources in the original language in their thesis. Students are strongly urged to begin study of an ancient language as soon as possible and to complete more than the minimum requirements, since the best way to gain an understanding of a culture is through the actual words of its people. Those considering graduate work on the ancient world should also be aware that most graduate schools require more than two years of undergraduate language training for admission.

The language offered in fulfillment of this requirement should generally match the student's area of cultural concentration; special arrangements are available with other universities for students whose cultural concentration require languages not normally taught at Columbia.

Students entering with expertise in their chosen languages are placed in advanced courses as appropriate but are still required to complete at least two semesters of language courses at Columbia; exceptions to this policy may be made in the case of languages not normally taught at Columbia. Language courses at the 1100-level may not be counted toward the major. Language courses, including those at the 1100-level, must be taken for a letter grade.

\*Relevant introductory courses are offered by the Department of Classics or from offerings in the Programs or Departments of Ancient Studies, Art History and Archaeology, History, Philosophy, or Religion. Students should confirm a course's relevance with the director of undergraduate studies as soon as possible.

## ANTHROPOLOGY

### THE ANTHROPOLOGY DEPARTMENT:

Departmental Office: 452 Schermerhorn; 212-854-4552

<https://anthropology.columbia.edu/>

Director of Undergraduate Studies:

Fall 2024:

Professor Naor Ben-Yehoyada; 462 Schermerhorn Extension; 212 854-8936; [nhb2115@columbia.edu](mailto:nhb2115@columbia.edu);

Spring 2025:

Professor María José de Abreu; 957 Schermerhorn Extension; 212-854-4752; [md3605@columbia.edu](mailto:md3605@columbia.edu)

Departmental Consultants (Archaeology):

Professor Hannah Chazin; 964 Schermerhorn Extension; 212-854-746; [hc2986@columbia.edu](mailto:hc2986@columbia.edu)

## THE STUDY OF ANTHROPOLOGY

Anthropology at Columbia is the oldest department of anthropology in the United States. Founded by Franz Boas in 1896 as a site of academic inquiry inspired by the uniqueness of cultures and their histories, the department fosters expansiveness of thought and independence of intellectual pursuit.

Cross-cultural interpretation, global socio-political considerations, a markedly interdisciplinary approach, and a willingness to think otherwise have formed the spirit of anthropology at Columbia. Boas himself wrote widely on pre-modern cultures and modern assumptions, on language, race, art, dance, religion, politics, and much else, as did his remarkable graduate students including, Ruth Benedict, Zora Neal Hurston, Edward Sapir, Manuel Gamio, Alfred Kroeber, Ella Deloria and Margaret Mead, among others.

In these current times of increasing global awareness, a spirit of mindful interconnectedness guides the department. Professors of anthropology at Columbia today write widely on colonialism and postcolonialism; on matters of gender, theories of history, knowledge, and power; on language, law, magic, mass-mediated cultures, modernity, and flows of capital and desire; on nationalism, ethnic imaginations, and political contestations; on material cultures and environmental conditions; on ritual, performance, and the arts; and on semiotics, linguistics, symbolism, and questions of representation. Additionally, they write across worlds of similarities and differences concerning the Middle East, China, Africa, the Caribbean, Japan, Latin America, South Asia, Europe, Southeast Asia, North America, and other increasingly transnational and technologically virtual conditions of being.

The Department of Anthropology traditionally offered courses and majors in three main areas: sociocultural anthropology, archaeology, and biological/physical anthropology. While the sociocultural anthropology program now comprises the largest part of the department and accounts for the majority of faculty and course offerings, archaeology is also a vibrant program within anthropology whose interests overlap significantly with those of sociocultural anthropology. Biological/physical anthropology has shifted its program to the Department of Ecology, Evolution, and Environmental Biology. The Anthropology Department enthusiastically encourages cross-disciplinary dialogue across disciplines as well as participation in study abroad programs.

### **Sociocultural Anthropology**

At the heart of sociocultural anthropology is an exploration of the possibilities of difference and the craft of writing.

Sociocultural anthropology at Columbia has emerged as a compelling undergraduate liberal arts major. Recently, the number of majors in sociocultural anthropology has more than tripled.

Students come to sociocultural anthropology with a wide variety of interests, often pursuing overlapping interests in, for example, performance, religion, writing, law, ethnicity, mass-media, teaching, language, literature, history, human rights, art, linguistics, environment, medicine, film, and many other fields, including geographical areas of interest and engagement. Such interests can be brought together into provocative and productive conversation with a major or concentration in sociocultural anthropology. The requirements for a major in sociocultural anthropology reflect this intellectual expansiveness and interdisciplinary spirit.

### Archaeology

Archaeologists study the ways in which human relations are mediated through material conditions, both past and present. Particular emphases in the program include the development of ancient states and empires, especially in the indigenous Americas; the impact of colonial encounters on communities in the American Southwest, the Levant and Africa; and human-animal relations in prehistory, religion and ritual, and the archaeology of the dead.

Themes in our teaching include the political, economic, social, and ideological foundations of complex societies; and archaeological theory and its relationship to broader debates in social theory, technology studies, and philosophy. Faculty members also teach and research on questions of museum representations, archaeological knowledge practices, and the socio-politics of archaeology. The program includes the possibility of student internships in New York City museums and archaeological fieldwork in the Americas and elsewhere.

In addition to the Major/Minor in Archaeology within the Anthropology Department, students can choose the interdisciplinary Major/Minor in Archaeology. All students with interests in archaeology are invited to sign up to the [undergraduate archaeology list serv](#) and are welcome to events organized by the Center for Archaeology.

## STUDENT ADVISING

Majors and concentrators should consult the director of undergraduate studies when entering the department and devising programs of study. Students may also seek academic advice from any anthropology faculty member, as many faculty members hold degrees in several fields or positions in other departments and programs at Columbia. All faculty in the department are committed to an expansiveness of thought and an independence of intellectual pursuit and advise accordingly.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA UNDERGRADUATE RESEARCH AND SENIOR THESIS DEPARTMENT HONORS AND PRIZES

Anthropology majors with a minimum GPA of 3.6 in the major who wish to write an honors thesis for departmental honors consideration may enroll in [ANTH UN3999 SENIOR THESIS SEM IN ANTHROPOL](#). Students should have a preliminary concept for their thesis prior to course enrollment. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

## PROFESSORS

Nadia Abu El-Haj (Barnard)  
Lila Abu-Lughod  
Partha Chatterjee, Professor Emeritus of Anthropology  
Myron L. Cohen, Professor Emeritus of Anthropology  
Zoe Crossland  
Terence D'Altroy  
Ralph L. Holloway, Professor Emeritus of Anthropology  
Claudio Lomnitz, Department Chair  
Mahmood Mamdani  
Brinkley Messick  
Rosalind Morris  
Elizabeth Povinelli  
Nan Rothschild (Barnard, *emerita*)  
David Scott  
Lesley A. Sharp (Barnard)  
Michael Taussig, Professor Emeritus of Anthropology  
Paige West (Barnard)

## ASSOCIATE PROFESSORS

Catherine Fennell  
Severin Fowles (Barnard)  
Marilyn Ivy  
Brian Larkin (Barnard)  
John Pemberton  
Audra Simpson

## ASSISTANT PROFESSORS

Vanessa Agard-Jones  
Naor Ben-Yehoyada  
Hannah Rachel Chazin  
Maria Jose de Abreu

## LECTURERS

Brian Boyd  
Ellen Marakowitz

## ADJUNCT RESEARCH SCHOLAR GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Grading

No course with a grade of D or lower can count toward the major or concentration. Only the first course that is to count toward the major or concentration can be taken Pass/D/Fail.

### Courses

Courses offered in other departments count toward the major and concentration only when taught by a member of the Department of Anthropology. Courses from other departments not taught by anthropology faculty must have the approval of the director of undergraduate studies in order to count toward the major or concentration.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

No one course is required for all Programs. ANTH 1002 is required for the Major and the Entry-Level Minor, but not for the Advanced Minor.

### Major in Anthropology

*The requirements for this program were modified on January 29, 2016.*

The program of study should be planned as early as possible in consultation with the director of undergraduate studies.

The anthropology major requires 30 points in the Department of Anthropology.

### Sociocultural Focus

Students interested in studying sociocultural anthropology are required to take the following courses:

ANTH UN1002	THE INTERPRETATION OF CULTURE
ANTH UN2004	INTRO TO SOC # CULTURAL THEORY
ANTH UN2005	THE ETHNOGRAPHIC IMAGINATION

### Archaeology Focus

Students interested in studying archaeological anthropology are required to take the following courses:

ANTH UN1002	THE INTERPRETATION OF CULTURE
ANTH UN2004	INTRO TO SOC # CULTURAL THEORY
ANTH UN2028	THINK LIKE AN ARCHAEOLOGIST

NOTE: Students wishing to pursue an interdisciplinary major in archaeology should see the *Archaeology* section of this Bulletin.

### Biological/Physical Focus

Students interested in studying this field should refer to the major in evolutionary biology of the human species in the Department of Ecology, Evolution, and Environmental Biology.

### Minor in Anthropology

The minor in Anthropology allows students to choose between two paths:

ANTH UN1002 THE INTERPRETATION OF CULTURE  
**OR** Two 2000-level courses

In addition: any four (4) courses (or 3 courses, in the case of 2x2000 level) in the Anthropology department, in ethnomusicology, or taught by an Anthropology instructor Columbia or Barnard, regardless of department.

### **OR**

ANTH UN2004 INTRO TO SOC # CULTURAL THEORY **and**

ANTH UN2005 THE ETHNOGRAPHIC IMAGINATION

In addition: any three (3) courses in the Anthropology department, in ethnomusicology, or taught by an Anthropology instructor at Columbia or Barnard, regardless of department.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Anthropology

The anthropology concentration requires 20 points in the Department of Anthropology.

### Sociocultural Focus

Students interested in studying sociocultural anthropology are required to take the following course:

ANTH UN1002 THE INTERPRETATION OF  
CULTURE

### Archaeology Focus

Students interested in studying archaeological anthropology are required to take the following course:

ANTH UN2028 THINK LIKE AN  
ARCHAEOLOGIST

### Biological/Physical Focus

Students interested in pursuing study in this field should refer to the concentration in evolutionary biology of the human species in the Department of Ecology, Evolution, and Environmental Biology.

## APPLIED MATHEMATICS

### THE DEPARTMENT OF MATHEMATICS

**Department website:** <http://www.math.columbia.edu>

#### Director of Undergraduate Studies

Julien Dubedat, 601 Mathematics; 212-854-8806; [jd2653@columbia.edu](mailto:jd2653@columbia.edu)

#### Undergraduate Academic Coordinator

TBD

## THE STUDY OF MATHEMATICS

The major in mathematics is an introduction to some of the highlights of the development of theoretical mathematics over the past four hundred years from a modern perspective. This study is also applied to many problems, both internal to mathematics and arising in other disciplines such as physics, cryptography, and finance.

Majors begin by taking either Honors mathematics or the calculus sequence. Students who do not take MATH UN1207 HONORS MATHEMATICS A and MATH UN1208 HONORS MATHEMATICS B normally take MATH UN2010 LINEAR ALGEBRA in the second year. Following this, majors begin to learn some aspects of the main branches of modern mathematics: algebra, analysis, and geometry; as well as some of their subdivisions and hybrids (e.g., number theory, differential geometry, and complex analysis). As the courses become more advanced, they also become more theoretical and proof-oriented and less computational.

Aside from the courses offered by the Mathematics Department, cognate courses in areas such as astronomy, chemistry, physics, probability, logic, economics, and computer science can be used toward the major. A cognate course must be a 2000-level (or higher) course and must be approved by the director of undergraduate studies. In general, a course not taught by the Mathematics Department is a cognate course for the mathematics major if either (a) it has at least two semesters of calculus as a stated prerequisite, or (b) the subject matter in the course is mathematics beyond an elementary level, such as PHIL UN3411 SYMBOLIC LOGIC, in the Philosophy Department, or COMS W3203 DISCRETE MATHEMATICS, in the Computer Science Department. A list of pre-approved cognate courses can be found under the [major requirements](#).

Another requirement for majors is participation in an undergraduate seminar, usually in the junior or senior year. Applied math majors must take the undergraduate applied math seminar sequence in both the junior and senior year. In these seminars, students gain experience in learning an advanced topic and lecturing on it. In order to be eligible for departmental honors, majors must write a senior thesis.

## Student Advising

#### Director of Undergraduate Studies

Prof. Julien Dubedat, 601 Mathematics; 212-854-8806; [jd2653@columbia.edu](mailto:jd2653@columbia.edu)

#### Calculus Director

Prof. George Dragomir, 525 Mathematics; 212-854-2849; [gd2572@columbia.edu](mailto:gd2572@columbia.edu)

#### Computer Science-Mathematics Advisers

*Computer Science:* Dr. Jae Woo Lee, 715 CEPSR; 212-939-7066; [jae@cs.columbia.edu](mailto:jae@cs.columbia.edu)

*Mathematics:* Prof. Chiu-Chu Melissa Liu, 623 Mathematics; 212-854-2499; [ccliu@math.columbia.edu](mailto:ccliu@math.columbia.edu)

#### Economics-Mathematics Advisers

*Economics*: Dr. Susan Elmes, 1006 International Affairs Building; 212-854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)

*Mathematics*: Prof. Francesco Lin, 613 Mathematics; 212-854-2192; [f\(jd2653@columbia.edu\)l2550@columbia.edu](mailto:f(jd2653@columbia.edu)l2550@columbia.edu)  
[fl2550@columbia.edu](mailto:fl2550@columbia.edu)

### **Mathematics-Statistics Advisers**

*Mathematics*: Prof. Andrew Blumberg, 607 Mathematics; 212-851-9307; [a\(jd2653@columbia.edu\)b4808@columbia.edu](mailto:a(jd2653@columbia.edu)b4808@columbia.edu) ([ab4808@columbia.edu](mailto:ab4808@columbia.edu))

*Statistics*: Dr. Ronald Neath, 612 Watson; 212-853-1398; [rcn2112@columbia.edu](mailto:rcn2112@columbia.edu)

## **Enrolling in Classes**

Most undergraduate level courses in Mathematics can be taken once the prerequisite courses have been completed. Any exceptions to waive a prerequisite requirement must be obtained by writing to the Director of Undergraduate Studies.

Students who wish to register for a section of either Supervised Readings and/or Senior Thesis must first identify a faculty sponsor, determine a suitable topic, and obtain written permission from the Director of Undergraduate Studies. Refer to the Undergraduate Research and Senior Thesis section, below.

## **Preparing for Graduate Study**

Departmental advisors can offer advice about and help with graduate school applications. The Mathematics department also runs a [Master's degree program in mathematical finance](#) and a [Ph.D. program in mathematics](#).

## **COURSEWORK TAKEN OUTSIDE OF COLUMBIA**

Comprehensive information on college level coursework taken outside Columbia University are described on the College's [Academic Regulation website](#) or the General Studies [Transfer Credit website](#).

## **Advanced Placement**

AP or IB calculus may count towards degree requirements, subject to completion of a higher level course:

- The department grants 3 credits for a score of 4 or 5 on the AP Calculus AB exam provided students complete MATH UN1102 CALCULUS II or MATH UN1201 CALCULUS III with a grade of C or better.
- The department grants 3 credits for a score of 4 on the AP Calculus BC exam provided students complete MATH UN1102 CALCULUS II or MATH UN1201 CALCULUS III with a grade of C or better.
- The department grants 6 credits for a score of 5 on the AP Calculus BC exam provided students complete MATH UN1201 CALCULUS III or MATH UN1205 ACCELERATED MULTIVARIABLE CALC or MATH UN1207 HONORS MATHEMATICS A with a grade of C or better.

Students can receive credit for only one calculus sequence. Other college level courses taken during high school may substitute for course prerequisites pending the approval of the Director of Undergraduate Studies, but will not confer credits.

## **Barnard College Courses**

Any course offered by the Mathematics@Barnard department will count towards degree requirements.

## **Transfer Courses**

Courses taken at other colleges or universities may be evaluated for transfer credit. A maximum of 16 transfer credits may be granted. A maximum of 6 transfer credits may be counted towards minor requirements.

- Course equivalency requests for any Calculus level course, Linear Algebra, or Ordinary Differential Equations must be submitted to the Calculus Director for evaluation.
- Course equivalency requests for any other mathematics course must be submitted to the Director of Undergraduate Studies for evaluation.

## **Study Abroad Courses**

Although study abroad is not an integral part of your studies in mathematics, it can provide you with exposure to a different culture and a different educational system, and, as such, can be very fulfilling. You may also want to participate in the Budapest Mathematical Seminar or similar programs in your junior year. Keep in mind, however, that study abroad requires careful planning. If you are seriously considering studying abroad, you should consult with the Director of Undergraduate



Studies as early in your program as possible in order to plan your major accordingly and to incorporate study abroad courses that are compatible with your major in mathematics.

## Summer Courses

Any mathematics or approved cognate course offered during the summer session will count towards the degree, with the exception of online only courses, which *do not* count towards degree requirements.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

*MATH UN3901 Supervised Readings I* (fall term only)

*MATH UN3902 Supervised Readings II* (spring term only)

**Prerequisites:** The written permission of the faculty member who agrees to act as sponsor (sponsorship limited to full-time instructors on the staff list), as well as the permission of the Director of Undergraduate Studies. The written permission must be deposited with the Director of Undergraduate Studies before registration is completed.

Guided reading and study in mathematics. A student who wishes to undertake individual study under this program must present a specific project to a member of the staff and secure his or her willingness to act as sponsor. Written reports and periodic conferences with the instructor. Supervising Readings do NOT count towards major requirements, with the exception of an advanced written approval by the Director of Undergraduate Studies.

### Senior Thesis Coursework and Requirements

A Senior Thesis in Mathematics is an original presentation of a subject in pure or applied mathematics from sources in the published literature. The thesis must demonstrate significant independent work of the author. A thesis is expected to be between 20 and 50 pages with complete references and must have a substantial expository component to be well received.

A student who is interested in writing a senior thesis needs to identify a faculty member in the Department of Mathematics as an advisor, determine an appropriate topic, and receive the written approval from the faculty advisor and the Director of Undergraduate Studies. The research of the thesis is conducted primarily during the fall term and the final paper is submitted to the Director of Undergraduate Studies by the end of March.

Students must register for *MATH UN3994 SENIOR THESIS IN MATHEMATICS I* (4 credits) in the fall semester of their senior year. An optional continuation course *MATH UN3995 SENIOR THESIS IN MATHEMATICS II* (2 credits) is available during the spring. The second term of this sequence may not be taken without the first. Registration for the spring continuation course has no impact on the timeline or outcome of the final paper. Sections of Senior Thesis in Mathematics I and II do NOT count towards the major requirements, unless prior written approval is obtained from the Director of Undergraduate Studies.

### Undergraduate Research Outside of Courses

The department runs several undergraduate research programs aimed at math majors. Opportunities are available during the academic year and summer terms.

The Undergraduate Mathematics Society is the department's undergraduate club. Detailed information on membership, Society-sponsored seminars and activities, and archival resources are available on the Society's Web site. The department also sponsors workshops and weekly seminars in mathematics, and posts information about special lectures, conferences, and seminars at nearby schools.

In addition, the Association for Women in Mathematics Columbia Chapter connects students and professors interested in mathematics at Columbia University and Barnard College as part of a broader effort to encourage women and girls to study and to have active careers in the mathematical sciences, and to promote equal opportunity for and the equal treatment of women and girls in the STEM fields.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

To be recommended to the College Committee on Honors, Awards, and Prizes, which makes the final decisions on all honors' recipients, you must have a GPA of 3.63 in the major and have completed a senior thesis of merit. For more

information on researching and writing the senior thesis and on departmental honors, you should consult with the Director of Undergraduate Studies. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

## Academic Prizes

### Putnam Exam

The Putnam exam is a nationwide competitive exam administered each year on the first Saturday in December. A faculty member conducts coaching sessions for students who are interested in competing.

### Columbia Prizes

Several prizes for excellence in mathematics are awarded each year to undergraduates, based on performance on a prize exam scheduled each spring. These include:

- Professor Van Amringe Mathematical Prize
  - This prize, established in 1910 by George G. Dewitt, Class of 1867, may be awarded to a first year, a sophomore, and a junior student in the College who are deemed most proficient in the mathematical subjects designated during the year of the award.
- John Dash Van Buren Jr. Prize in Mathematics
  - Established in 1906 by Mrs. Louis T. Hoyt in memory of her nephew, John Dash Van Buren, Jr., Class of 1905, this prize may be awarded to a Columbia College senior degree candidate who writes the best examination in subjects prescribed by the Mathematics Department.

## OTHER IMPORTANT INFORMATION

Other helpful information may be found on the [Department of Mathematics website](#).

## PROFESSORS

- David A. Bayer (Barnard)
- Andrew Blumberg
- Simon Brendle
- Ivan Corwin
- Panagiotas Daskalopoulos
- Aise Johan de Jong (Department Chair)
- Daniela De Silva (Barnard Chair)
- Julien Dubedat
- Robert Friedman
- Dorian Goldfeld
- Brian Greene
- Richard Hamilton
- Michael Harris
- Ioannis Karatzas
- Alisa Knizel (Barnard)
- Chiu-Chu Liu
- Dusa McDuff (Barnard)
- Andrei Okounkov
- D. H. Phong
- Ovidiu Savin
- Michael Thaddeus
- Eric Urban
- Mu-Tao Wang

## ASSOCIATE PROFESSORS

- Amol Aggarwal
- Chao Li
- Francesco Lin
- Lindsay Piechnik (Barnard)

## ASSISTANT PROFESSORS

- Elena Giorgi
- Giulia Sacca
- Mehtaab Sawhney

## J.F. RITT ASSISTANT PROFESSORS

- Rostislav Akhmechet
- Amadou Bah
- Deeparaj Bhat
- Jeanne Boursier
- Marco Castronovo
- Brian Harvie
- Qiao He
- Sven Hirsch
- Andres Ibanez Nunez
- Yoonjoo Kim
- Siddhi Krishna
- Gyujin Oh
- Marco Sangiovanni Vincentelli
- Dawei Shen
- Xi Sisi Shen
- Evan Sorensen
- Roger Van Peski
- Lucy Yang

## SENIOR LECTURERS IN DISCIPLINE

- Mikhail Smirnov
- Peter Woit

## LECTURERS IN DISCIPLINE

- George Dragomir

## ON LEAVE

- Fall 2024: Profs. Aggarwal, Bayer, Giorgi, Li, Sawhney, Shen, Wang
- Spring 2025: Profs. Aggarwal, Bayer, Li, Liu, Sawhney, Urban, Wang

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN MATHEMATICS PROGRAM PLANNING FOR ALL STUDENTS

### Placement in the Calculus Sequences

#### Calculus I

Students who have essentially mastered a precalculus course and those who have a score of 3 or less on an Advanced Placement (AP) exam (either AB or BC) should begin their study of calculus with MATH UN1101 CALCULUS I.

## Calculus II and III

Students with a score of 4 or 5 on the AB exam, 4 on the BC exam, or those with no AP score but with a grade of A in a full year of high school calculus may begin with either MATH UN1102 CALCULUS II or MATH UN1201 CALCULUS III.

Note that such students who decide to start with Calculus III may still need to take Calculus II since it is a requirement or prerequisite for other courses. In particular, they **MUST** take Calculus II before going on to MATH UN1202 CALCULUS IV. Students with a score of 5 on the BC exam may begin with Calculus III and do not need to take Calculus II.

Those with a score of 4 or 5 on the AB exam or 4 on the BC exam may receive 3 points of AP credit upon completion of Calculus II with a grade of C or higher. Those students with a score of 5 on the BC exam may receive 6 points of AP credit upon completion of Calculus III with a grade of C or higher.

## Accelerated Multivariable Calculus

Students with a score of 5 on the AP BC exam or 7 on the IB HL exam may begin with MATH UN1205 ACCELERATED MULTIVARIABLE CALC. Upon completion of this course with a grade of C or higher, they may receive 6 points of AP credit.

## Honors Mathematics A

Students who want a proof-oriented theoretical sequence and have a score of 5 on the BC exam may begin with MATH UN1207 HONORS MATHEMATICS A, which is especially designed for mathematics majors. Upon completion of this course with a grade of C or higher, they may receive 6 points of AP credit.

## Transfer Inside the Calculus Sequences

Students who wish to transfer from one calculus course to another are allowed to do so beyond the date specified on the Academic Calendar. They are considered to be adjusting their level, not changing their program. However, students must obtain the approval of the new instructor and their advising dean prior to reporting to the Office of the Registrar.

## Grading

No course with a grade of D or lower can count toward the major, interdepartmental major, minor, or concentration.

## Double Counting

Students who are doing a double major should review the College Bulletin's policy on [Double Counting Courses towards Requirements](#). In general, courses in the Calculus sequence may be counted towards both majors, with up to two additional MATH UN2xxx or higher level courses at the discretion of all approving departments. Students pursuing a minor may double count at most one additional MATH UN2xxx or higher level course.

## Planning Forms

[Planning forms](#) for all programs are available on our website. These forms should be completed and approved by a department adviser early in the semester of the expected graduation date.

## COURSE NUMBERING STRUCTURE

- 1000-2000 Level courses are intended to be introductory courses (such as the Calculus sequence and Linear Algebra).
- 3000-4000 Level courses cover more advanced mathematics, as well as supervised readings, undergraduate seminars, and senior theses.
- 5000 Level courses are Master's level courses.
- 6000 Level and above are PhD level courses.

## GUIDANCE FOR FIRST-YEAR STUDENTS

The systematic study of mathematics begins with one of the following three alternative calculus and linear algebra sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA
OR	

MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
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OR

MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B
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Credit is allowed for only one calculus and linear algebra sequence.

*Calculus I, II* is a standard course in single-variable differential and integral calculus; *Calculus III, IV* is a standard course in multivariable differential and integral calculus; *Accelerated Multivariable Calculus* is an accelerated course in multivariable differential and integral calculus.

While *Calculus II* is no longer a prerequisite for *Calculus III*, students are strongly urged to take it before taking *Calculus III*. In particular, students thinking of majoring or concentrating in mathematics or one of the joint majors involving mathematics should take *Calculus II* before taking *Calculus III*. Note that *Calculus II* is a prerequisite for *Accelerated Multivariable Calculus*, and both *Calculus II* and *Calculus III* are prerequisites for *Calculus IV*.

The third sequence, *Honors Mathematics A/B*, is for exceptionally well-qualified students who have strong Advanced Placement scores. It covers multivariable calculus (MATH UN1201 CALCULUS III - MATH UN1202 CALCULUS IV) and linear algebra (MATH UN2010 LINEAR ALGEBRA), with an emphasis on theory.

## GUIDANCE FOR TRANSFER STUDENTS

Consideration for AP, IB and transfer credit is as follows:

Equivalent to *MATH UN1101 Calculus I*:

- A score of 4 on the Calculus BC Advanced Placement exam.
- A score of 4 or 5 on the Calculus AB Advanced Placement exam.
- A score of 6 on the IB Mathematics: analysis and approaches HL exam (2021 or later) or a score of 6 on the IB HL Mathematics or Further Mathematics exams (2020 or earlier).
- A score of 6 or 7 on the IB Mathematics: applications and interpretation HL exam (2021 or later) or a score of 6 or 7 on the IB SL Mathematics exam (2020 or earlier). This does not include the IB “Mathematical Studies SL” exam.
- An A on the A-Level Mathematics exam or a B in A-Level Further Mathematics exam in the U.K.
- A grade of A in a full year of high school calculus.

Equivalent to *MATH 1101 Calculus I* and *MATH 1102 Calculus II*:

- A score of 5 on the Calculus BC Advanced Placement.
- A score of 7 on the IB Mathematics: analysis and approaches HL exam (2021 or later) or a score of 7 on the IB HL Mathematics or Further Mathematics exams (2020 or earlier).
- An A on the A-Level Further Mathematics exam in the U.K.

## UNDERGRADUATE PROGRAMS OF STUDY

### MAJOR IN MATHEMATICS

The major requires 40-42 points as follows:

Select one of the following three calculus and linear algebra sequences (13-15 points including Advanced Placement Credit):

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
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OR



MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B
12 points in the following courses:	
MATH GU4041	INTRO MODERN ALGEBRA I
MATH GU4042	INTRO MODERN ALGEBRA II
MATH GU4061	INTRO MODERN ANALYSIS I <sup>2</sup>
MATH GU4062	INTRO MODERN ANALYSIS II <sup>2</sup>
3 points in the following:	
MATH UN3951 or MATH UN3952	UNDERGRADUATE SEMINARS I <sup>3</sup> UNDERGRADUATE SEMINARS II
12 points from the following:	
1) Courses offered by the department numbered 2000 or higher <sup>3</sup>	
2) Courses from the list of approved cognate courses below. A maximum of 6 credits may be taken from courses outside the department. <sup>4</sup>	

<sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

<sup>2</sup> Students who are not contemplating graduate study in mathematics may replace one or both of the two terms of MATH GU4061- MATH GU4062 by one or two of the following courses: MATH UN2500 ANALYSIS AND OPTIMIZATION, MATH UN3007 COMPLEX VARIABLES, MATH UN3028 PARTIAL DIFFERENTIAL EQUATIONS, or MATH GU4032 FOURIER ANALYSIS.

<sup>3</sup> Only one Undergraduate Seminar may count towards the major requirements.

<sup>4</sup> Additional courses may be selected only with prior written approval from the Director of Undergraduate Studies.

The program of study should be planned with a departmental adviser before the end of the sophomore year. Majors who are planning on graduate studies in mathematics are urged to obtain a reading knowledge of one of the following languages: French, German, or Russian.

Majors are offered the opportunity to write an honors senior thesis under the guidance of a faculty member. Interested students should refer to the "Undergraduate Research and Senior Thesis" section on the Overview tab for additional information.

**Approved Cognate Courses 1**

APMA E2101 INTRO TO APPLIED MATHEMATICS  
 APMA E3102 APPLIED MATHEMATICS II: PDE'S  
 APMA E4300 COMPUT MATH:INTRO-NUMERCL METH  
 APMA E4302 METHODS IN COMPUTATIONAL SCI  
 APPH E6102 PLASMA PHYSICS II  
 CBMF W4761 COMPUTATIONAL GENOMICS  
 CHEM UN3079 PHYSICAL CHEMISTRY I-LECTURES  
 CHEM UN3080 PHYSICAL CHEMISTRY II-LECTURES  
 COMS W3134 Data Structures in Java  
 COMS W3157 ADVANCED PROGRAMMING  
 COMS W3203 DISCRETE MATHEMATICS  
 COMS W3261 COMPUTER SCIENCE THEORY  
 COMS W4111 INTRODUCTION TO DATABASES  
 COMS W4160 COMPUTER GRAPHICS  
 COMS W4162 Advanced Computer Graphics  
 COMS W4203 Graph Theory  
 COMS W4261 INTRO TO CRYPTOGRAPHY  
 COMS W4460 PRIN-INNOVATN/ ENTREPRENEURSHIP  
 COMS W4701 ARTIFICIAL INTELLIGENCE  
 COMS W4705 NATURAL LANGUAGE PROCESSING  
 COMS W4762 Machine Learning for Functional Genomics  
 COMS W4771 MACHINE LEARNING  
  
 COMS W4773 Machine Learning Theory  
 CSEE W3827 FUNDAMENTALS OF COMPUTER SYSTS  
 CSOR W4231 ANALYSIS OF ALGORITHMS I  
 CSOR W4246 ALGORITHMS FOR DATA SCIENCE  
 CSPH G4801  
 CSPH G4802 Math Logic II: Incompleteness

**Approved Cognate Courses 2**

ECON UN3025 FINANCIAL ECONOMICS  
 ECON BC3035 INTERMEDIATE MICROECONOMICS  
 ECON BC3038 INTERNATIONAL MONEY # FINANCE  
 ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3265 MONEY AND BANKING  
 ECON UN3412 INTRODUCTION TO ECONOMETRICS  
 ECON GU4020 ECON OF UNCERTAINTY # INFORMTN  
 ECON GU4230 ECONOMICS OF NEW YORK CITY  
 ECON GU4280 CORPORATE FINANCE  
 ECON GU4415 GAME THEORY  
 ECON GU4710 FINANCE AND THE REAL ECONOMY  
 EEOR E6616 CONVEX OPTIMIZATION  
 EESC UN3400 COMPUTATIONAL EARTH SCIENCE  
 EESC GU4008 Introduction to Atmospheric Science  
 EESC GU4090 INTRO TO GEOCHRONOLGY  
 EESC GU4924 INTRO TO ATMOSPHERIC CHEMISTRY  
 IEOR E3106 STOCHASTIC SYSTEMS AND APPLICATIONS  
 IEOR E3658 PROBABILITY FOR ENGINEERS  
 IEOR E4700 INTRO TO FINANCIAL ENGINEERING  
 IEOR E6613 Optimization, I  
 MSAE E3010 FOUNDATIONS OF MATERIALS SCIENCE  
 MSAE E3111 THERMO/KINETIC THRY/STAT MECH  
 PHIL UN3411 SYMBOLIC LOGIC  
 PHIL GU4424 MODAL LOGIC  
 PHIL GU4431 INTRODUCTION TO SET THEORY  
 PHIL GU4561 PROBABILITY # DECISION THEORY  
 PHIL GU4810 LATTICES AND BOOLEAN ALGEBRA

**Approved Cognate Courses 3**

PHYS UN2601 PHYSICS III:CLASS/ QUANTUM WAVE  
 PHYS UN2801 ACCELERATED PHYSICS I  
 PHYS UN2802 ACCELERATED PHYSICS II  
 PHYS UN3003 MECHANICS  
 PHYS UN3007 ELECTRICITY-MAGNETISM  
 PHYS UN3008 ELECTROMAGNETIC WAVES # OPTICS  
 PHYS GU4011 PARTICLE ASTROPHYS # COSMOLOGY  
 PHYS GU4018 SOLID STATE PHYSICS  
 PHYS GU4019 MATHEMATICAL METHODS OF PHYSICS  
 PHYS GU4021 QUANTUM MECHANICS I  
 PHYS GU4022 QUANTUM MECHANICS II  
 PHYS GU4023 THERMAL # STATISTICAL PHYSICS  
 PHYS GU4040 INTRO TO GENERAL RELATIVITY  
 PHYS GR6047 QUANTUM FIELD THEORY I  
 PHYS GR6080 SCIENTIFIC COMPUTING  
 POLS GU4700 MATH # STATS FOR POLI SCI  
 STAT UN3106 APPLIED MACHINE LEARNING  
 STAT GU4001 INTRODUCTION TO PROBABILITY AND STATISTICS  
 STAT GU4203 PROBABILITY THEORY  
 STAT GU4204 STATISTICAL INFERENCE  
 STAT GU4205 LINEAR REGRESSION MODELS  
 STAT GU4206 STAT COMP # INTRO DATA SCIENCE  
 STAT GU4207 ELEMENTARY STOCHASTIC PROCESS

## MAJOR IN APPLIED MATHEMATICS

The major requires 37-41 points as follows:

Select one of the following three calculus and linear algebra sequences (13-15 points including Advanced Placement Credit):

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B
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Select one of the following three courses. The selected course may not count as an elective.

MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH GU4032	FOURIER ANALYSIS
MATH GU4061	INTRO MODERN ANALYSIS I

Take each of the following two required courses:

APMA E4901	SEM-PROBLEMS IN APPLIED MATH (junior year)
APMA E4903	SEM-PROBLEMS IN APPLIED MATH (senior year)

18 points in electives, with at least 9 points in Track A electives, or at least 9 points in Track B electives. A maximum of 9 points may be selected from courses outside these tracks, with prior written approval from the Director of Undergraduate Studies.

### TRACK A

MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
MATH UN3007 or MATH GU4065 or APMA E4204	COMPLEX VARIABLES HONORS COMPLEX VARIABLES FUNCTNS OF A COMPLEX VARIABLE
MATH UN3028 or APMA E3102 or APMA E4200	PARTIAL DIFFERENTIAL EQUATIONS APPLIED MATHEMATICS II: PDE'S PARTIAL DIFFERENTIAL EQUATIONS
MATH GU4032	FOURIER ANALYSIS
MATH GU4061	INTRO MODERN ANALYSIS I
MATH GU4062	INTRO MODERN ANALYSIS II
APMA E4100	Applied Analysis
APMA E4101	APPL MATH III:DYNAMICAL SYSTMS
APMA E4150	APPLIED FUNCTIONAL ANALYSIS
APMA E4300	COMPUT MATH:INTRO-NUMERCL METH
APMA E4301	NUMERICAL METHODS/PDE'S
APMA E6301	ANALYTIC METHODS FOR PDE'S
APMA E6302	NUMERICAL ANALYSIS OF PDE'S

### TRACK B

COMS W3203	DISCRETE MATHEMATICS
COMS W3261	COMPUTER SCIENCE THEORY
COMS W4231	ANALYSIS OF ALGORITHMS I
COMS W4261	INTRO TO CRYPTOGRAPHY

MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GU4155 or IEOR E3658 or STAT GU4203	PROBABILITY THEORY PROBABILITY FOR ENGINEERS PROBABILITY THEORY
MATH GU4156	ADVANCED PROBABILITY THEORY
IEOR E3106 or STAT GU4207	STOCHASTIC SYSTEMS AND APPLICATIONS ELEMENTARY STOCHASTIC PROCESS
APMA E4008	Advanced and Applied Linear Algebra
APMA E4306	Applied Stochastic Analysis
ECON GU4415	GAME THEORY

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

## MAJOR IN COMPUTER SCIENCE–MATHEMATICS

The goal of this interdepartmental major is to provide substantial background in each of these two disciplines, focusing on some of the parts of each which are closest to the other. Students intending to pursue a Ph.D. program in either discipline are urged to take additional courses, in consultation with their advisers.

The major requires 20 points in computer science, 19-21 points in mathematics, and two 3-point electives in either computer science or mathematics.

### Computer Science

COMS W1004 or COMS W1007	Introduction to Computer Science and Programming in Java
COMS W3134 or COMS W3137	Data Structures in Java HONORS DATA STRUCTURES # ALGOL
COMS W3157	ADVANCED PROGRAMMING
COMS W3203	DISCRETE MATHEMATICS
COMS W3261	COMPUTER SCIENCE THEORY
CSEE W3827	FUNDAMENTALS OF COMPUTER SYSTS

### Mathematics

Select one of the following three calculus and linear algebra sequences (13-15 points including Advanced Placement Credit):

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B
MATH UN3951 or MATH UN3952	UNDERGRADUATE SEMINARS I UNDERGRADUATE SEMINARS II

MATH GU4041	INTRO MODERN ALGEBRA I
<b>Electives</b>	
Select two of the following courses:	
MATH BC2006	COMBINATORICS
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH UN3007	COMPLEX VARIABLES
MATH UN3020	NUMBER THEORY AND CRYPTOGRAPHY
MATH UN3025	MAKING, BREAKING CODES
MATH UN3028	PARTIAL DIFFERENTIAL EQUATIONS
MATH UN3386	DIFFERENTIAL GEOMETRY
MATH GU4032	FOURIER ANALYSIS
MATH GU4042	INTRO MODERN ALGEBRA II
MATH GU4051	TOPOLOGY
MATH GU4053	INTRO TO ALGEBRAIC TOPOLOGY
MATH GU4061	INTRO MODERN ANALYSIS I
MATH GU4062	INTRO MODERN ANALYSIS II
COMS W4111	INTRODUCTION TO DATABASES
COMS W4113	FUND-LARGE-SCALE DIST SYSTEMS
COMS W4115	PROGRAMMING LANG # TRANSLATORS
COMS W4118	OPERATING SYSTEMS I
COMS W4119	COMPUTER NETWORKS
COMS W4152	Engineering Software-as-a-Service
COMS W4156	ADVANCED SOFTWARE ENGINEERING
COMS W4160	COMPUTER GRAPHICS
COMS W4167	COMPUTER ANIMATION
COMS W4170	USER INTERFACE DESIGN
COMS W4181	SECURITY I
CSOR E4231	ANALYSIS OF ALGORITHMS I
COMS W4236	INTRO-COMPUTATIONAL COMPLEXITY
COMS W4701	ARTIFICIAL INTELLIGENCE
COMS W4705	NATURAL LANGUAGE PROCESSING
COMS W4731	Computer Vision I: First Principles
COMS W4733	COMPUTATIONAL ASPECTS OF ROBOTICS
CBMF W4761	COMPUTATIONAL GENOMICS
COMS W4771	MACHINE LEARNING
CSEE W4824	COMPUTER ARCHITECTURE
CSEE W4868	SYSTEM-ON-CHIP PLATFORMS

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

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## MAJOR IN ECONOMICS-MATHEMATICS

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## MAJOR IN MATHEMATICS-STATISTICS

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The program is designed to prepare the student for: (1) a career in industries such as finance and insurance that require a high level of mathematical sophistication and a substantial knowledge of probability and statistics, and (2) graduate study



in quantitative disciplines. Students choose electives in finance, actuarial science, operations research, or other quantitative fields to complement requirements in mathematics, statistics, and computer science.

The major requires 38-43 points as follows:

### Mathematics

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010 & MATH UN2500	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA and ANALYSIS AND OPTIMIZATION <sup>1</sup>
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OR

MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010 & MATH UN2500	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA and ANALYSIS AND OPTIMIZATION <sup>1</sup>
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OR

MATH UN1207 & MATH UN1208 & MATH UN2500	HONORS MATHEMATICS A and HONORS MATHEMATICS B and ANALYSIS AND OPTIMIZATION (with approval from the adviser)
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### Statistics

#### Introductory Course

STAT UN1201	CALC-BASED INTRO TO STATISTICS
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#### Required Courses

STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS

Select one of the following courses:

STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance
STAT GU4264	STOCHASTIC PROCESSES-APPLIED I
STAT GU4265	STOCHASTIC METHODS IN FINANCE

### Computer Science

Select one of the following courses:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
COMS W1007	

or an advanced computer science offering in programming

### Electives

An approved selection of three advanced courses in mathematics, statistics, applied mathematics, industrial engineering and operations research, computer science, or approved mathematical methods courses in a quantitative discipline. At least one elective must be a Mathematics Department course numbered 3000 or above.

<sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

Students interested in modeling applications are recommended to take MATH UN2030 ORDINARY DIFFERENTIAL EQUATIONS and MATH UN3028 PARTIAL DIFFERENTIAL EQUATIONS.

Students interested in finance are recommended to take MATH GR5010 INTRO TO THE MATH OF FINANCE, STAT GU4261 STATISTICAL METHODS IN FINANCE, and STAT GU4221 TIME SERIES ANALYSIS.

Students interested in graduate study in mathematics or in statistics are recommended to take MATH GU4061 INTRO MODERN ANALYSIS I and MATH GU4062 INTRO MODERN ANALYSIS II.

Students preparing for a career in actuarial science are encouraged to replace STAT GU4205 LINEAR REGRESSION MODELS with STAT GU4282 Linear Regression and Time Series Methods , and to take among their electives STAT GU4281 Theory of Interest .

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## MINOR IN MATHEMATICS

The Minor in Mathematics aims to provide students with a solid foundation of mathematical concepts. The program focuses on essential coursework, including multivariable calculus and linear algebra.

The minor functions as a complement to a number of closely related majors, including physics, economics, and computer science. Designed for accessibility, the minor emphasizes foundational understanding rather than proof-based courses, distinguishing it from the comprehensive Mathematics major.

Students in economics, computer science, statistics, physics, and similar natural science programs such as biology and climate science may be particularly interested in the minor. However, its versatile skillset extends beyond these disciplines. Students in language programs, art, and other humanities can also benefit from the minor's quantitative proficiency, enhancing their studies and future career prospects.

Students start with the minor requirements, e.g. with advanced placement sufficient to start the Multivariable Calculus/ Linear Algebra component. Upon completion of the minor, students will have acquired the skills and knowledge to carry out basic and advanced computations, formulate and solve problems, both internal to mathematics and arising from real world applications.

The minor consists of 15-17 points, as follows:

1. Multivariable calculus
2. Linear Algebra
3. Three approved elective courses (at least 9 points), two of which must be 2000+ level courses offered by the Mathematics department. The third course may either be an additional course in Math, or selected from a list of approved cognate courses<sup>1</sup>. Only one Undergraduate Seminar in Mathematics (MATH UN3951 UNDERGRADUATE SEMINARS I or MATH UN3952 UNDERGRADUATE SEMINARS II) may count towards the minor requirements.

### Multivariable Calculus & Linear Algebra

Select one of the following five multivariable and linear algebra sequences:

MATH UN1202 & MATH UN2010	CALCULUS IV and LINEAR ALGEBRA
OR	
MATH UN1202 & MATH UN2015	CALCULUS IV and Linear Algebra and Probability
OR	
MATH UN1205 & MATH UN2010	ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
OR	
MATH UN1205 & MATH UN2015	ACCELERATED MULTIVARIABLE CALC and Linear Algebra and Probability
OR	
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

### Electives

Select three elective courses (at least 9 points), two of which must be 2000+ level courses offered by the Mathematics department. The third course may either be an additional course in Math, or selected from a list of approved cognate courses.<sup>1</sup>

Only one Undergraduate Seminar in Mathematics (MATH UN3951 UNDERGRADUATE SEMINARS I or MATH UN3952 UNDERGRADUATE SEMINARS II) may count towards the minor requirements.

<sup>1</sup> See the list of approved cognate courses under the Major in Mathematics

## Prerequisites

Prerequisites for the courses in (1) Multivariable calculus and (2) Linear Algebra are as follows:

- MATH UN1202 CALCULUS IV: requires MATH UN1102 CALCULUS II and MATH UN1201 CALCULUS III
- MATH UN1205 ACCELERATED MULTIVARIABLE CALC: requires MATH UN1101 CALCULUS I and MATH UN1102 CALCULUS II
- MATH UN2010 LINEAR ALGEBRA: MATH UN1201 CALCULUS III (strongly recommended)
- MATH UN2015 Linear Algebra and Probability: MATH UN1101 CALCULUS I (strongly recommended)

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## MINOR IN MATHEMATICAL PROBABILITY

Probability Theory is a core mathematical subject with deep connections to a wide variety of disciplines. Many fundamental probabilistic concepts and problems stem from such fruitful interactions, from material sciences (e.g. percolation) to social sciences and computer science (e.g. random networks). The Minor in Mathematical Probability is a focused minor aiming at providing students majoring in these disciplines with a solid mathematical foundation organized around the probabilistic concepts pertinent to their main program of study. The transversal nature of probability both in science at large, and in terms of university structure, is underlined by the option of satisfying some core and elective requirements in other departments, such as Statistics and Industrial Engineering and Operation Research.

The minor naturally complements programs of study in natural and social sciences. As a focused minor, it also provides students with precise guidance on choices of coursework with direct relevance to and synergy with their major.

Students start with the minor requirements, e.g. with advanced placement sufficient to start the Multivariable Calculus/ Linear Algebra component. Upon completion of the minor, students will have acquired core mathematical skillsets motivated and illustrated by interactions with other disciplines, organized around theoretical and applied probability. The specialized structure and designation of the minor may also benefit career and professional development.

The minor consists of 15-17 points, as follows:

1. Multivariable calculus
2. Linear Algebra
3. Probability Theory
4. Two approved elective courses (at least 6 points), at least one of which is an approved course offered by the Mathematics Department. The second course may either be an additional course in Math, or selected from the list of approved cognate courses.

### Multivariable Calculus & Linear Algebra

MATH UN1201 & MATH UN2010	CALCULUS III and LINEAR ALGEBRA
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OR

MATH UN1201 & MATH UN2015	CALCULUS III and Linear Algebra and Probability
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OR

MATH UN1205 & MATH UN2010	ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
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OR

MATH UN1205 & MATH UN2015 OR	ACCELERATED MULTIVARIABLE CALC and Linear Algebra and Probability
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B
<b>Probability Theory</b>	
MATH GU4155 or STAT GU4203 or IEOR E3658	PROBABILITY THEORY PROBABILITY THEORY PROBABILITY FOR ENGINEERS
<b>Electives</b>	
Select two elective courses (at least 6 points), at least one of which is an approved course offered by the Mathematics Department. The second course may either be an additional course in Math, or selected from the list of approved cognate courses below.	
<b>Approved Mathematics Electives</b>	
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH UN3028	PARTIAL DIFFERENTIAL EQUATIONS
MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GU4061	INTRO MODERN ANALYSIS I
MATH GU4062	INTRO MODERN ANALYSIS II
MATH GU4156	ADVANCED PROBABILITY THEORY
<b>Approved Cognate Electives</b>	
COMS W3203	DISCRETE MATHEMATICS
IEOR E3106	STOCHASTIC SYSTEMS AND APPLICATIONS
PHIL GU4561	PROBABILITY # DECISION THEORY
PHYS GU4023	THERMAL # STATISTICAL PHYSICS
STAT GU4204	STATISTICAL INFERENCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance
STAT GU4264	STOCHASTIC PROCESSES-APPLIED I

## Prerequisites

Prerequisites for the courses in (1) Multivariable calculus and (2) Linear Algebra are as follows:

- MATH UN1201 CALCULUS III: requires MATH UN1101 CALCULUS I
- MATH UN1205 ACCELERATED MULTIVARIABLE CALC: requires MATH UN1101 CALCULUS I and MATH UN1102 CALCULUS II
- MATH UN2010 LINEAR ALGEBRA: MATH UN1201 CALCULUS III (strongly recommended)
- MATH UN2015 Linear Algebra and Probability: MATH UN1101 CALCULUS I (strongly recommended)

Prerequisites for the courses in (3) Probability Theory are as follows:

- MATH GU4155 PROBABILITY THEORY: MATH GU4061 INTRO MODERN ANALYSIS I (approved elective)
- STAT GU4203 PROBABILITY THEORY: At least one semester, and preferably two, of calculus. An introductory course (STAT UN1201 CALC-BASED INTRO TO STATISTICS, preferably) is strongly recommended
- IEOR E3658 PROBABILITY FOR ENGINEERS: Solid knowledge of calculus, including multiple variable integration

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## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### CONCENTRATION IN MATHEMATICS

The concentration requires the following:

**Mathematics**

Select one of the following three multivariable calculus and linear algebra sequences:

MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1205 & MATH UN2010	ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B
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**Additional Courses**

Select at least 12 additional points from any of the courses offered by the department numbered 2000 or higher. A maximum of 3 credits may be taken from courses outside the department. <sup>2</sup>

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.
- <sup>2</sup> For mathematics courses taken in other departments, consult with the Director of Undergraduate Studies.

Any course given by the Mathematics department fulfills the General Studies quantitative reasoning requirement when passed with a satisfactory letter grade.

## ARCHAEOLOGY

### THE INTERDEPARTMENTAL MAJOR IN ARCHAEOLOGY

Center website: <https://archaeology.columbia.edu>

Office location: 965 Schermerhorn Extension

Office contact: [archaeology@columbia.edu](mailto:archaeology@columbia.edu)

Director of Undergraduate Studies: Prof. Hannah Chazin,  
[hc2986@columbia.edu](mailto:hc2986@columbia.edu)

Center for Archaeology Administrator: Tiffany Pinnock,  
[tp2837@columbia.edu](mailto:tp2837@columbia.edu)

### THE STUDY OF ARCHAEOLOGY

Archaeology is the study of the material conditions inhabited and acted upon by people in the past and present. As an academic discipline, archaeology has come to mean many things to different generations of scholars, yet all approaches share in common a focus on the physical remains of the past and on the interpretive acts that enliven these remains and are challenged by them. Investigation of the past through the study of material remains is entangled with historiography, politics, and individual and collective memory, and is implicated in the production of present-day communities and identities. At Columbia, archaeology is a multidisciplinary

field practiced by faculty and students in the humanities, social sciences, and natural sciences.

Archaeology is everywhere! Students and faculty at Columbia have done archaeological fieldwork and research program around the world, including: Argentina, Peru, Central America, the North American Southwest, New York City, upstate New York, the UK, France, Italy, Greece, Turkey, Egypt, Yemen, Israel, Palestine, Armenia, and Madagascar. Archaeologists at Columbia also work with professionals at a wide range of institutions in New York. Among the institutions at which students in particular programs may conduct research, or work on internships, are the American Museum of Natural History, the Brooklyn Museum, the Metropolitan Museum of Art, the Museum of the City of New York, the National Museum of the American Indian, the New York Botanical Garden, and the South Street Seaport Museum.

The inter-departmental major in archaeology is an interdisciplinary program that allows students to take archaeology classes from a wide range of departments at Columbia and Barnard, including Anthropology, Art History, Classics, EALAC, History, EEEB and others. Students can put together a major that reflects their particular interests. This major has a strong focus on lab and field skills, as well as on questions of interpretation and theory.

Interdepartmental Major in Archaeology

Interdepartmental Minor in Archaeology



Interdepartmental Concentration in Archaeology

## STUDENT ADVISING

Director of Undergraduate Studies: Prof. Hannah Chazin,  
[hc2986@columbia.edu](mailto:hc2986@columbia.edu)

### Consulting Advisers

Students should consult with the Director of Undergraduate Studies for Archaeology to discuss the major, minor, or concentration and for help with planning a course of study and selecting classes.

Students interested in archaeology should sign up for the archaeology list-serv, for announcements about courses, events, and summer research opportunities: <https://listserv.cuit.columbia.edu/scripts/wa.exe?SUBED1=ARCY-UND&A=1>

Advising events such as open houses and welcome events, as well as Friday Open Lab hours will be announced on the listserv.

Other information about advising and the major and minor can be found on the CCA's website:

<https://archaeology.columbia.edu/undergraduate/major/>

<https://archaeology.columbia.edu/undergraduate/minor/>

### Enrolling in Classes

Majoring or minoring in archaeology does not require any prerequisite coursework.

Requirements for enrolling in specific archaeology courses will vary by department and instructor.

### Preparing for Graduate Study

Students interested in pursuing graduate study in archaeology or other disciplines that include archaeologists are encouraged to consult with the Director of Undergraduate Studies or other archaeology faculty at Columbia and Barnard.

Requirements and preparation for graduate study in archaeology are discipline-specific and vary between archaeology, art history, anthropology, classics, and other regional studies departments and programs. Some programs of study may require language training and language courses may be counted as part of the "related courses" for the major.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Coursework in fulfillment of a major or minor must be taken at Columbia University unless

explicitly noted here and/or expressly permitted by the Director of Undergraduate Studies of the program. Exceptions or substitutions permitted by the Director of

Undergraduate Studies should be confirmed in writing by email to the student.

### Advanced Placement

Advanced Placement credits are not accepted towards the major or the minor in archaeology.

### Barnard College Courses

Courses taken at Barnard are treated as part of the available curriculum and count towards the major/minor, as long as they meet the relevant criteria to count towards the major/minor.

### Transfer Courses

When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated

for degree credit (e.g., to confirm that the courses will count toward the 124 points of credit that every student is required to complete for the B.A. degree). Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major or minor.

Up to two courses for the major may be fulfilled with transfer credit.

Students are allowed to apply 1 course (up to 4 credits) of transfer coursework to the minor.

For both the major and the minor, students may undertake a fieldwork course (usually done in the summer) that offers credit through another university and that will be counted towards the program of study, separately from any prior transfer courses.

### Study Abroad Courses

Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Undergraduate Global Engagement and taught by Columbia

instructors) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus. If they are not explicitly listed by the department as fulfilling requirements in the major or minor, the DUS will need to confirm that they can be used toward requirements in the major/minor.

Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia, and are subject to the same policies as other transfer courses. There will be a limit on the number of courses taken abroad that can be applied to the major/minor, and they must be approved by the DUS.

## Summer Courses

Students doing summer field school courses that are affiliated with other universities need to get pre-approval from the Director of Undergraduate Studies. Students will need to provide a syllabus for the course prior to approval and will need to submit their transcript after completion of the course. See the section on “Transfer Courses” for more detailed information.

Summer courses at Columbia are offered through the School of Professional Studies. Courses taken in a Summer Term may be used toward requirements for the major/minor only as articulated in department/institute/center guidelines or by permission of the Director(s) of Undergraduate Studies. More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research Courses

The interdepartmental major encourages students to explore the wide-range of field and laboratory methods used by archaeologists. Think like an Archaeologist (UN2028), one of required introductory courses, introduces students to the basics of archaeological research and methods.

Students majoring in archaeological can take a wide range of courses to fulfill the field

Work/internship and laboratory class requirements – and should consult with the Director of Undergraduate Studies about the available courses and individual research interests.

### Senior Thesis Coursework and Requirements

Writing a senior thesis is optional, but recommended for students who are interested in pursuing a graduate degree or who want to be eligible for departmental honors.

Thesis topics should be discussed with a faculty adviser during the junior year, allowing time for planning, research, and travel during the following summer. In the senior year, students may register for two semesters of senior thesis study with their adviser (e.g., ANTH 3997 or AHIS 3997–3998), to cover the writing of the thesis, the final draft of which must be submitted by March 25th.

### Undergraduate Research Outside of Courses

Most semesters the Columbia Center for Archaeology runs open lab hours on Fridays, where students can drop in and volunteer on faculty and graduate student research projects. Announcements about the open lab will be circulated on the archaeology listserv: <https://listserv.cuit.columbia.edu/scripts/wa.exe?SUBED1=ARCY-UND&A=1>

Students interested in summer fieldwork opportunities and internships in archaeology should sign up for the archaeology listserv: <https://listserv.cuit.columbia.edu/scripts/wa.exe?SUBED1=ARCY-UND&A=1>

Or visit: <https://archaeology.columbia.edu/undergraduate/fieldwork/>

Information about funding for fieldwork and internships can be found here: <https://archaeology.columbia.edu/resources/funding-opportunities/>

## DEPARTMENTAL HONORS AND PRIZES

### Department Honors

To be considered for departmental honors, majors must:

1. Have grade point average of at least 3.6 in major courses
2. Completed an honors thesis or equivalent project of high quality

### Academic Prizes

The Ralph and Rose Solecki Award is given in honor of the eminent Columbia archaeologists. The Award is given to a student, chosen by the faculty, who has made a significant contribution to the life of the archaeological community at Columbia and/or Barnard in the preceding year. The Solecki award is usually made to a graduating student, but it is open to all students in archaeology regardless of their status.

The award comes with a small sum of money intended for books.

## OTHER IMPORTANT INFORMATION

The Archaeology program at Columbia is housed in the Center for Archaeology and taught by faculty who come from a range of different backgrounds. The interdepartmental major/minor in archaeology was developed as a truly interdisciplinary approach to archaeology, taking advantage of the full scope of archaeological expertise on offer at Columbia University.

In addition, it is also possible to study archaeology as part of majoring in Anthropology or Art History, among other options.

If you are not sure which course of study to choose, make an appointment to talk with the Director of Undergraduate Studies.

## PROFESSORS

Zainab Bahrani

Zoë Crossland

Francesco de Angelis

Terence D’Altroy

Severin Fowles (Barnard)  
 Holger Klein  
 Feng Li  
 Kristina Milnor (Barnard)  
 Avinoam Shalem  
 Marc Van De Mierop

## ASSOCIATE PROFESSORS

Erica Avrami  
 Kristina Douglass  
 Ellen Morris (Barnard)  
 Ioannis Mylonopoulos  
 Lisa Trever  
 Jin Xu

## ASSISTANT PROFESSORS

Hannah Chazin

## ADJUNCT/VISITING PROFESSORS

Marco Mairuo  
 Camilla Sturm

## SENIOR LECTURERS AND LECTURERS

Brian Boyd  
 Paraskevi Martzavou  
 Jill Shapiro

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Students who entered Columbia (as first-year students or as transfer students) in or after Fall 2024 may select from a curriculum of majors and minors. The requirements for the Bachelor of Arts degree, and role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Students who entered Columbia in or before Fall 2023 may select from a curriculum of majors and minors and concentrations. The requirements for the Bachelor of Arts degree, and the role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Because of its interdisciplinary structure, the archaeology major, minor, and concentration can be tailored to students'

individual interests (within the structure of the requirements). A wide variety of courses may be eligible for the major/minor, and students are encouraged to:

- Consult regularly with the Director of Undergraduate Studies
- Sign up for the listserv to receive a bulletin with archaeology courses being offered in the upcoming term: <https://listserv.cuit.columbia.edu/scripts/wa.exe?SUBED1=ARCY-UND&A=1>
- Use the progress planning tools available on the CCA website

Major: <https://archaeology.columbia.edu/undergraduate/major/>

Minor: <https://archaeology.columbia.edu/undergraduate/minor/>

Concentration: <https://archaeology.columbia.edu/undergraduate/concentration/>

Broadly speaking, classes can count towards the major if they have an archaeological component. This can include:

- Classes that with material culture with an orientation towards the past. This could be architecture, monuments, landscape as well as material that has been excavated or collected during survey. It can also include the recent past, as long as the orientation is material in outlook.
- Any class that reads archaeological theory
- Classes on the history of human evolution or on human skeletal biology

Courses can count as related courses (fulfilling the specific requirements of the major and the concentration) if the student can case that it is relevant to their individual course of study.

Classes that count as related rather than as part of the major include:

- Classics or history classes that deal only with textual analysis and do not incorporate any study of material objects.
- Geology classes that have no connection with the human past
- Palaeontology
- Classes on primates, ecology, etc.
- Language classes

Student interested in archaeology are encouraged to consider introductory courses in Earth and environmental sciences,

environmental biology, and/or chemistry for their Core Curriculum science requirement.

## Course Numbering Structure

Course numbering structures will vary by department, so students are encouraged to consult the specific bulletin entry for departments offering specific archaeology courses.

For the purposes of the major, “upper-level courses” generally refers to courses that are 3000-level or higher. Other courses may be approved for this requirement after consultation with the DUS.

## Guidance for First-Year Students

First year students are encouraged to take one or two of the introductory classes offered

each year (ANTH 1007, ANTH 1008, or ANTH 2028).

## Guidance for Transfer Students

Transfer students are encouraged to meet with the Director of Undergraduate Studies for

Archaeology to discuss their plan to complete the major/minor and any transfer credits that might be applied.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

Students interested in the major, minor, and concentration in archaeology should take some combination of the three introductory courses:

THINK LIKE AN ARCHAEOLOGIST (ANTH 2028)

THE ORIGINS OF HUMAN SOCIETY (ANTH 1007)

THE RISE OF CIVILIZATION (ANTH 1008)

Majors: Two of the three introductory courses

Minors: Must take ANTH 2028, and either ANTH 1007 or 1008

Concentration: One of the three introductory courses\*

\* An additional introductory course can be counted towards the requirement for upper-level courses for the concentration

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## Major in Archaeology

The major requires a minimum of 30 points within the major and 9 points of related courses, as follows:

- Two of the three introductory courses (6 points):

ANTH1007 The Origins of Human Society

ANTH1008 The Rise of Civilization

ANTH2028 Think like an Archaeologist

- Two upper-level courses from different regions of the world, planned in consultation with the DUS
- Three additional upper-level courses, planned in consultation with the DUS
- Participation in four to six weeks in Columbia-affiliated field projects, independent study in excavation or other field projects, or a relevant museum internship and/or lab work.\*
- One laboratory course in archaeology (or its equivalent in the field), as approved by the DUS)
- A capstone seminar in archaeology, preferably taken in the junior or senior year. World Archaeology (ANTH 3993 – taught alternate years) or a substitute seminar to be decided with the advance approval of the Director of Undergraduate Studies.\*\*
- 9 points of related courses, planned in consultation with the DUS

Students majoring in archaeology may choose to write a senior thesis. Thesis topics should be discussed with a faculty adviser during the junior year, allowing time for planning, research, and travel during the following summer. In the senior year, students may register for two semesters of senior thesis study with their adviser (e.g., ANTH 3997 or AHIS 3997–3998), to cover the writing of the thesis.

\* The field, school, project, or internship must be approved in advance by the program advisers, and arrangements should be made in advance with the director of undergraduate studies for credits to be accepted as part of the degree. For more information, see the Center for Archaeology website.

\*\* Students who are writing a thesis may substitute a thesis seminar for this requirement.

## Minor in Archaeology

The minor consists of five courses in total (for a range of 16-19 credits). There are no prerequisites for the minor.

Across the 5 courses required for the minor, students must take courses in at least two different departments.

Students minoring in archaeology are required to take the introductory method and theory course:



- ANTH2028 Think like an Archaeologist

Students are also required to take one of the other introductory courses:

- ANTH1007 The Origins of Human Society
- ANTH1008 The Rise of Civilization

Students can select three other archaeology courses, in consultation with the DUS, with the recommendation that one of the courses be a 3000-level course or higher.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE FALL 2023

### Concentration in Archaeology

The concentration in archaeology requires a total of 21 points, within anthropology, art history and archaeology, and other approved departments, with no more than four courses being taken within any single department.

Requirements for the concentration are as follows:

Any one of the three introductory courses:

- ANTH1007 The Origins of Human Society
- ANTH1008 The Rise of Civilization
- ANTH2028 Think like an Archaeologist

One seminar or colloquium in the Departments of Anthropology, Art History and Archaeology, Classics, or History, as approved by the program advisers.

Three upper-level courses, two of which must cover different regions of the world

One related course, planned with DUS in accordance with the student's individual interests and academic goals

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## ARCHITECTURE

**Department website:** [architecture.barnard.edu](http://architecture.barnard.edu)

**Office location:** 500, The Diana Center

**Phone:** 212-854-8430

**Email:** [architecture@barnard.edu](mailto:architecture@barnard.edu)

### Chair and Director of Undergraduate Studies in Architecture:

Professor Karen Fairbanks  
[kfairbanks@barnard.edu](mailto:kfairbanks@barnard.edu)

### Departmental Administrator:

Rachel Garcia-Grossman  
[rgarciag@barnard.edu](mailto:rgarciag@barnard.edu)

## THE STUDY OF ARCHITECTURE

Studying Architecture at Barnard College, Columbia College, and General Studies leads to a liberal arts degree – a Bachelor of Arts with a major in Architecture, and Barnard College is the administrative location for all undergraduate architecture studies at Columbia University and its partner institutions. A liberal arts education in architecture holds a unique position in academia and in relation to the discipline. If the goal of a professional education in architecture is to enable students to participate directly in the world as an architect – a liberal arts education asks that students consider the broader and myriad conditions in which architecture is conceived and practiced and, in turn, to understand how architecture inevitably alters those conditions. Students are asked to confront and interpret the complex social, cultural, political, and environmental processes that weave through architectural design and urbanism. The purpose of an undergraduate liberal arts degree in architecture is to educate students to think about the world through architecture.

The Architecture curriculum introduces design at a variety of scales, acknowledging that integrated design thinking is effective for problem-solving at any scale and in any discipline. Students will experiment with full-scale installations and devices and make small-scale models of the built environment from which they extract, interpret, and invent new possibilities of inhabitation and use. The curriculum intentionally balances the traditions of handcrafted representation with evolving digital technologies of architectural design and communication.

The Architecture major complements, and makes great use of its University setting. With access to superb libraries, research centers, graduate programs, and abundant intellectual resources, our students have the opportunity to follow their creative instincts to great depth and breadth – and they do. The major takes full advantage of New York City, utilizing it as a site for many design and research projects that explore the social, cultural, and environmental histories that have shaped the city. Architecture students study with peers from countries around the world in one of the most diverse cities in the world. A large majority of Architecture students expand their education by interning in Architecture or a related field during their undergraduate studies. Alumni of the Department are leaders in architecture and design fields around the world. The faculty teaching in the undergraduate program are dedicated teachers who are also at the forefront of practice and research and are similarly drawn to New York City as a nexus of global design thinking.

Students interested in obtaining a professional degree in Architecture continue on to graduate programs after their undergraduate degree, and students from the Barnard



Columbia program have enjoyed enormous success in their admissions to the most competitive graduate programs in the country. Students who study Architecture as undergraduates have also pursued graduate degrees in a variety of disciplines including Urban Planning, Law, and Media and Communications.

## MISSION

The Architecture major establishes an intellectual context for students to interpret the relation of form, space, program, materials, and media to human life and thought. Through the Architecture curriculum, students participate in the ongoing shaping of knowledge about the built environment and learn to see architecture as one among many forms of cultural production. At the same time, the major stresses the necessity of learning disciplinary-specific tools, methods, terms and critiques. Thus, work in the studio, lecture or seminar asks that students treat architecture as a form of research and speculation which complement the liberal arts mission of expansive thinking.

## STUDENT LEARNING OUTCOMES

Students in the Architecture Majors who fully engage with the curriculum should be able to complete the following outcomes:

- Apply integrated design thinking to specific problems in and beyond the discipline.
- Visually communicate architectural concepts and research using discipline-specific techniques in multiple media.
- Verbally present independent, group or assigned research, in multiple media formats.
- Organize and concisely write in a variety of formats including reports, case studies, synthetic overviews, etc.
- Understand and critically interpret major buildings and themes of Architectural history and theory.
- Be intellectually prepared for graduate studies in architecture and related disciplines.

## PROGRAMS OF STUDY

There are a few distinctions between the opportunities for students at Barnard College, Columbia College, The Fu Foundation School of Engineering and Applied Science (SEAS), and the School of General Studies to study architecture at an undergraduate level.

**Barnard College** students can major in [Architecture](#) (also referred to as the studio major), major in the [History and Theory of Architecture](#), or minor in [Architecture](#) through our department.

**Columbia College** students can major or minor in [Architecture](#) through our department. Columbia students who wish to pursue the History and Theory of Architecture major can do so through Columbia's Department of Art History and Archaeology.

**The School of General Studies** students can major or minor in [Architecture](#) through our department. General Studies students who wish to pursue the History and Theory of Architecture major can do so through Columbia's Department of Art History and Archaeology.

**The Fu Foundation School of Engineering and Applied Science (SEAS)** students may complete a minor in [Architecture](#).

## STUDENT ADVISING

### Advising Resources

#### Advising Appointments

Our department offers weekly advising appointments for students who are interested in our courses and potentially pursuing an architecture major or minor. If you have any questions or need help interpreting departmental requirements for the [major or minor](#), please [sign up for an appointment](#) with one of our faculty advisors. [Faculty advising appointments](#) are offered throughout the fall and spring and are open to anyone who is interested in learning more about our department. During the summer break, current and prospective students are instead invited to submit their questions by email to [architecture@barnard.edu](mailto:architecture@barnard.edu).

#### Major and Minor Advising

After a student has officially declared their major in architecture, they will be assigned a permanent faculty advisor in our department who will meet with them once per semester to review their progress in the major. Although minors are not formally assigned to a faculty advisor, we welcome and encourage our minors to [meet with our faculty advisors](#) to address any questions.

#### Major and Minor Requirements Worksheets

Major and minor worksheets are intended to help students plan their coursework and the completion of their program of study. You can download major and minor worksheets [here](#).

#### The Architecture Department Newsletter

Our department distributes a biweekly newsletter for architecture students. Students who are enrolled in one of our courses or who have declared the major in architecture are automatically subscribed to this newsletter. Those who are not in our courses and wish to subscribe to our newsletter can do so [here](#).

#### Architecture Program Planning Meetings

Our department hosts two program planning meetings per year, one in October and another in April. At these meetings, students can learn about our course offerings, the course application process, and the major and minor requirements.

Information about upcoming program planning meetings can be found on our [website's events calendar](#).

## Guidance for First-Year Students

For first-year students who are interested in architecture and design, we offer the following course, which prioritizes first-year students:

### ARCH UN1010 Design Futures: New York City

In addition to taking Design Futures: NYC, first-year students are encouraged to refer to our [program planning lists](#) and review any lecture courses that can count towards the architecture major and minor requirements. First-year students are discouraged from applying for admission to our introductory-level studios Architectural Design: Systems and Materials or Architectural Design: Environments and Mediations; these courses are more appropriate for second and third-year students, and those students will be given priority for admission to these studios. Similarly, our required lecture course for the major, ARCH UN3117 Modern Architecture in the World, can be taken at any time but is generally recommended for the sophomore year as a companion course to the first two studios.

Please note that first-year students interested in majoring in architecture should not enroll in ARCH UN1020 Introduction to Architectural Design & Visual Culture, as this course is intended for third and fourth-year students minoring in architecture or non-majors interested in an architecture studio. This course will not count toward the architecture major.

To learn more about our courses and department, first-year students are strongly encouraged to sign up for our [faculty advising appointments](#).

## Enrolling in Courses

### Course Applications

Many architecture courses require an application. To receive full consideration for admission, you must fill out the course application in advance and also join the online course waitlist during an early registration period.

Please note that our department will only review applications and process admissions during specific weeks, with priority given to those who apply and join the waitlists during one of the early registration periods.

Admission to our courses is at the discretion of the department and instructor. If a student is admitted from the waitlist, their status on SSOL will change to "Approved." The transition from the waitlist to the class list will occur automatically overnight.

Due to very limited space in our courses, it is possible that a student who has applied and joined the waitlist during an early registration window will remain on the waitlist until

the start of classes. Once the semester begins, students who remain on the waitlist for any of our courses must attend the first class session and speak with the instructor to inquire about available spots.

To learn more about our course application process, please visit our [website](#).

## PREPARATION FOR GRADUATE STUDY

Students who wish to pursue graduate study in architecture or related fields are strongly encouraged to sign up for our faculty [advising appointments](#) in their junior or senior year.

## COURSEWORK TAKEN OUTSIDE OF BARNARD (FOR BARNARD STUDENTS ONLY)

Our department offers studio, lecture, seminar, and project-based courses that can be counted toward a major or minor in architecture. Courses taught by our department are often supplemented by courses from other departments, colleges, and schools at Columbia University, such as the Columbia Art History Department, the Barnard Art History Department, and the Barnard and Columbia Urban Studies Program. Some courses taught at The Graduate School of Architecture, Planning, and Preservation (GSAPP) may also be approved to count toward the architecture major or minor each term. All courses taught outside our department are primarily taken to fulfill the major or minor's lecture, seminar, and workshop requirements.

Before each semester begins, our department reviews all upcoming undergraduate courses and publishes a list of classes that fulfill the requirements for the architecture major and minor. These lists, known as 'Program Planning Lists,' are typically released a semester in advance at our program planning meetings.

Once available, our Program Planning Lists are uploaded to [this page](#) on our website.

Additionally, our department reviews all upcoming graduate courses at the GSAPP that are open for cross-registration by undergraduate students and publishes a list detailing how those courses can fulfill the architecture major and minor requirements. This list, known as the [B+C|A List of GSAPP Courses Approved for the Architecture Majors and Minor](#), undergoes updates each semester and is always published during the first week of classes.

Once available, our list of approved GSAPP courses is uploaded to [this page](#) on our website.

If you have any questions about using either of these lists, please [schedule an appointment](#) with one of our faculty advisors.

## Advanced Placement Credit

Our department does not grant any course exemptions for AP or other exam scores.

## Columbia College Courses

Select courses offered at Columbia College and other schools at Columbia University may be used for credit toward the major or minor. These courses have been approved by the Department Chair and are noted on our '[Program Planning Lists](#)' each semester. Students may request consideration for courses not on this list through consultation with their major advisor and/or the Department Chair, particularly in fulfilling their 'Specialization' within the major.

## Transfer Credit

When students wish to transfer credit to Barnard from other institutions, their coursework is first evaluated for college elective credit by the Registrar's Office. If they are approved, departments can consider these courses for credit toward the major or minor.

The use of transfer courses toward the major requirements is determined on a case-by-case basis. Typically, no more than 3 transfer courses will be allowed to fulfill the major requirements, primarily in the 'Specialization' category within the major.

Students requesting a review of up to three courses for transfer credits should refer to our [Request for Exemption from Architecture Major or Minor Requirements](#) form.

## Study Abroad Credit

Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Global Engagement) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus.

Classes taken abroad through other institutions or programs are treated as transfer credit and are subject to the same policies as other transfer courses. Accordingly, there will be a limit on the number of study abroad courses taken at other institutions that can be counted toward the major or minor. Typically, no more than 3 transfer courses will be allowed to fulfill the major requirements

To receive credit toward the major or minor for a study abroad course (whether taken through a Columbia program or another institution/program), students must submit a Study Abroad Approval form through Slate and obtain the approval of the Department Chair. Students majoring in architecture must also meet with their major advisor to discuss how to apply any courses taken abroad to their major requirements.

## Summer Credit

Summer courses at Barnard are equivalent to those taken during the academic year. Courses that have been approved

for the fulfillment of departmental requirements will automatically count toward the major and minor.

Courses taken at other institutions (including Columbia) are considered transfer credit and are subject to the same policies governing other transfer courses. To receive major or minor credit for a summer course taken at another institution, students must submit a Summer Course form through Slate and have it approved by both the Registrar's Office and the Department Chair.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA (FOR COLUMBIA & GENERAL STUDIES STUDENTS ONLY)

Our department offers studio, lecture, seminar, and project-based courses that can be counted toward a major or minor in architecture. Courses taught by our department are often supplemented by courses from other departments, colleges, and schools at Columbia University, such as [The Graduate School of Architecture, Planning, and Preservation \(GSAPP\)](#), the Columbia Art History Department, the Barnard Art History Department, and the Barnard and Columbia Urban Studies Program. Courses taught outside our department are primarily taken to fulfill the major's lecture, seminar, and workshop requirements.

Before each semester begins, our department reviews all upcoming undergraduate courses and publishes a list of classes that fulfill the requirements for the architecture major and minor. These lists, known as 'Program Planning Lists,' are typically released a semester in advance at our program planning meetings.

Once available, our Program Planning Lists are uploaded to [this page](#) on our website. If you have any questions about using these lists, please [schedule an appointment](#) with one of our faculty advisors.

Additionally, our department reviews all graduate courses at the GSAPP that are open for cross-registration by undergraduate students and publishes a list detailing how those courses can fulfill the architecture major and minor requirements. This list, known as the [B+C|A List of GSAPP Courses Approved for the Architecture Majors and Minor](#), undergoes updates each fall and spring and is always published during the first week of classes.

Once available, our list of approved GSAPP courses is uploaded to [this page](#) on our website.

If you have any questions about using either of these lists, please [schedule an appointment](#) with one of our faculty advisors.

## Advanced Placement Credit

Our department does not grant any course exemptions for AP or other exam scores.

## Barnard College Courses

Courses offered by our department, along with other select courses at Barnard College and other schools at Columbia University, may be used for credit toward the major or minor. These courses have been approved by the Department Chair and are noted on our ‘[Program Planning Lists](#)’ each semester. Students may request consideration for courses not on this list through consultation with their major advisor and/or the Department Chair, particularly in fulfilling their ‘Specialization’ within the major.

## Transfer Credit

When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit (e.g., to confirm that the courses will count toward the 124 points of credit that every student is required to complete for the B.A. degree). Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major or minor.

The use of transfer courses toward the major requirements is determined on a case-by-case basis. Typically, no more than 3 transfer courses will be allowed to fulfill the major requirements, primarily in the ‘Specialization’ category within the major.

Students requesting a review of up to three courses for transfer credits should refer to our [Request for Exemption from Architecture Major or Minor Requirements](#) form.

## Study Abroad Credit

Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia’s Center for Undergraduate Global Engagement and taught by Columbia instructors) are treated as Columbia courses, equivalent to those taken on theorningside Heights campus. If they are not explicitly listed by the department as fulfilling requirements in the major or minor, the student’s major advisor will need to confirm that they can be used toward requirements in the major or minor.

Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia and are subject to the same policies as other transfer courses. Accordingly, the number of study abroad courses taken at other institutions that can be counted toward the major or minor will be limited. Typically, no more than 3 transfer courses will be allowed to fulfill the major requirements

Students majoring in architecture should meet with their major advisor, while those minoring in architecture should consult the DUS. These meetings are necessary to discuss

the application of study abroad courses—whether through a Columbia program or another institution—to their program of study requirements and to obtain credit toward their major or minor.

## Summer Courses

Summer courses in architecture at Barnard are equivalent to those taken during the academic year. Courses that have been approved for the fulfillment of departmental requirements will automatically count toward the major and minor.

Summer courses at Columbia are offered through the School of Professional Studies. Courses taken in a Summer Term may be used toward requirements for the major/minor only as articulated in department/institute/center guidelines or by permission of the Director(s) of Undergraduate Studies. More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin.

Students must meet with their major advisor or the DUS for permission to receive major or minor credit for a summer course taken at Columbia.

## Core Curriculum Connections

Students may be interested in course offerings that can be taken to fulfill the architecture major and the Global Core requirement of the Core Curriculum. The list of approved courses for the Global Core requirement is on [this page](#) of the Bulletin.

## RESEARCH METHODS IN ARCHITECTURE AND THE SENIOR CAPSTONE PROJECT

### Coursework in Research Methods

The following lecture and seminar courses are required for the architecture major and will introduce students to the major questions and research methods in architecture.

ARCH UN3117 Modern Architecture in the World  
ARCH UN3901 Senior Seminar

### Other Research Opportunities

Independent Study provides an opportunity for students to work one-on-one with an architecture faculty member on directed research or projects. Typically, Independent Study is reserved for students at an advanced level within their major who have demonstrated initiative and serious engagement with the material in their previous coursework. To learn more about the application process, please visit our [website](#).

### The Senior Capstone Project

In their senior year, architecture majors are required to take ARCH UN3901 Senior Seminar. The major also requires that seniors submit a design portfolio and a writing sample before graduation. The portfolio includes representative work



from all design studios and the writing sample is a research paper or essay from a senior-level architecture seminar or architecture-related course. Final submissions are archived in the department, design portfolios are displayed at the end-of-the-year show, and both the portfolio and the writing sample are evaluated and used to award graduation honors.

## DEPARTMENTAL HONORS AND PRIZES

### Departmental Honors

Each spring, our department nominates graduating architecture majors for departmental honors in recognition of academic excellence within the architecture major.

The senior graduation materials, which include a portfolio and research paper from an architecture course, are evaluated and used to award honors, prizes, and awards.

For Columbia College students, graduating seniors must have a grade point average of at least 3.6 in classes for the major to be eligible for departmental honors. For Barnard College and The School of General Studies students, there is no minimum GPA to be eligible for departmental honors.

### Academic Awards and Prizes

Several awards and prizes are sponsored by Barnard College, Columbia College, and the School of General Studies that graduating architecture majors may be nominated for. Students do not apply for these awards; recipients are selected by the departmental faculty and committees. The senior graduation materials, which include a portfolio and research paper from an architecture course, are evaluated and used to award these prizes.

#### Barnard College Scholarships, Fellowships, and Prizes (BC Students Only):

[The Alpha Zeta Club Graduate Scholarship](#)  
[The Josephine Paddock Fellowship](#)  
[The Ethel Stone LeFrak Prize](#)

See [here](#) for a complete list of Barnard College Scholarships, Fellowships, and Prizes.

#### Columbia College and School of General Studies Prizes (CC and GS Students Only):

[The Louis Sudler Prize in the Arts](#)

See [here](#) for a complete list of Columbia College Scholarships, Fellowships, and Prizes.

#### Architecture Department Awards (All Architecture Students):

Graduating architecture majors are also eligible for the following departmental awards:

The Marcia Meade Design Award  
 The Portfolio Design Award

## OTHER IMPORTANT INFORMATION

### Double Counting Courses

We strongly encourage students to book an appointment with their major advisor to discuss the applicable rules around "double counting" courses towards two majors or two categories of requirements (e.g., the architecture major and the Foundations Requirements (Barnard) or The Core (Columbia)).

Below, we have also linked the specific web pages that address double-counting at each school:

**The Columbia College Bulletin:** [Academic Requirements](#) —> The Departmental Concentration or Major —> Policy on Double-Counting Courses toward Requirements

**The Barnard College Bulletin:** Curriculum --> Requirements for the Liberal Arts Degree --> [Foundations](#)

**The School of General Studies Bulletin:** The Core —> [General Guidelines](#)

## FULL-TIME FACULTY

### Chair and Director of Undergraduate Studies in Architecture:

[Karen Fairbanks](#) (Claire Tow Professor of Professional Practice in Architecture)

#### Assistant Professors:

[Ignacio G. Galán](#)  
[Ralph Ghoche](#)  
[Anooradha Iyer Siddiqi](#)  
[Nick Smith](#) (Assistant Professor in Architecture and Assistant Professor in Urban Studies)

#### Professors of Professional Practice in Architecture:

[Kadambari Baxi](#)

## ADJUNCT FACULTY

#### Adjunct Professors:

Joeb Moore  
 Madeline Schwartzman  
 Suzanne Stephens

#### Adjunct Assistant Professors:

Mark Bearak  
 Amina Blacksher  
 Eliana Dotan  
 Lindsay Harkema  
 Andrea Johnson  
 Annie Kountz  
 Clara Kraft  
 Leah Meisterlin  
 Nick Roseboro  
 Todd Rouhe



Michael Schissel  
Fred Tang  
Irina Verona

**Our Undergraduate Programs of Study**

**THE MAJOR IN ARCHITECTURE (p. 79)**  
**THE MAJOR IN THE HISTORY AND THEORY OF ARCHITECTURE**  
**THE MINOR IN ARCHITECTURE**

**THE MAJOR IN ARCHITECTURE**

**The major in architecture is open to Barnard College students, Columbia College students, and General Studies students.**

**The required courses for the major are broken down into four categories: Studios; Lectures, Seminars, and Workshops; Senior Courses; and courses for the Specialization.**

**Studio Courses**

Four studio courses, to be taken one per semester (studio courses have limited enrollment and priority is given to Architecture majors):

ARCH UN2101 ARCHITECTURAL DESIGN: SYSTEMS AND MATERIALS

ARCH UN2103 ARCHITECTURAL DESIGN: ENVIRONMENTS AND MEDIATIONS

ARCH UN3201 ADVANCED ARCHITECTURAL DESIGN I

ARCH UN3202 ADVANCED ARCHITECTURAL DESIGN II

**Lecture, Seminar, and Workshop Courses \***

Five courses following the distribution requirement below:

ARCH UN3117 MOD ARCHITECTURE IN THE WORLD

Architectural Elective: History

Architectural Elective: Society, Environment, and the Global

Architectural Elective: Design, Media, and Technology

Architectural Elective

**Senior Courses \***

ARCH UN3901

Elective Architecture seminar (another Senior Seminar in the Department, Advanced Architectural Research and Design, or Independent Research)

**Specialization Courses**

All majors are asked to complement their work with a thematic unit (three courses) called the "specialization." Each student develops a specific specialization that broadens their architectural studies in one of the following areas or combination of areas: History, Society, Environment, Global, Design, Media, and Technology. Courses may be taken from across various departments. All majors, in consultation with their advisers, will develop a short (100 word) description of their specialization and advisers will approve their course selections. Students can request and develop other areas of specialization with adviser approval.

**Graduation Requirements**

The major also requires that students submit a portfolio and a writing sample before graduation. The design portfolio includes representative work from all design studios and the writing sample is a paper or essay from a senior level architecture or architecture-related course. Final submissions are archived in the department, the portfolios are displayed at the end of the year show, and both are used to award graduation honors.

**Before each semester begins, our department reviews all available undergraduate courses and publishes a list of approved classes that fulfill the requirements for the architecture major and minor. These lists, known as our 'Program Planning Lists,' are typically released during our program planning meetings, and uploaded to [this page](#) on our website. If you have any questions about using these lists, please [schedule an appointment](#) with one of our faculty advisors.**

**THE MAJOR IN THE HISTORY AND THEORY OF ARCHITECTURE**

**The History and Theory of Architecture major emphasizes research and writing in Architectural History. This program of study is only open to Barnard College students. Columbia College and General Studies students who are interested in majoring in architectural history should contact the [Department of Art History and Archaeology at Columbia University](#).**

**The History and Theory of Architecture major consists of 14 courses, distributed as follows:**

**Studio Courses**

1-2 studio courses, to be taken one per semester:

ARCH UN1020 INTRO-ARCH DESIGN/VIS CULTURE

ARCH UN2101	ARCHITECTURAL DESIGN: SYSTEMS AND MATERIALS
ARCH UN2103	ARCHITECTURAL DESIGN: ENVIRONMENTS AND MEDIATIONS

**Lecture, Seminar, and Workshop Courses\***

7-8 lecture, seminar, and workshop courses:

ARCH UN3117	MOD ARCHITECTURE IN THE WORLD
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Architectural Elective: History

Architectural Elective: Society, Environment, and the Global

Architectural Elective: Design, Media, and Technology

3 to 4 Architectural Electives - any lecture, seminar, or workshop offered by the Architecture Department or an approved course from a related department

\*Note: Studios, Lectures, Seminars, and Workshops must total to 9 courses

**Specialization**

3 courses for the specialization:

Each student develops a specialization that broadens the reach of their architectural studies and supports their thesis. All majors, in consultation with their advisers, will develop a short (100 word) description of their specialization and advisers will approve their course selections.

**Senior Courses\***

2 courses for the senior course requirement:

ARCH UN3901

ARCH UN3998 INDEPENDENT STUDY

All senior History and Theory of Architecture majors are required to enroll in one semester of Senior Seminar and to write a thesis which can be done through enrolling in Independent Study (ARCH UN3997 or ARCH UN3998). Please consult with your major adviser for planning your thesis.

**Before** each semester begins, our department reviews all available undergraduate courses and publishes a list of approved classes that fulfill the requirements for the architecture major and minor. These lists, known as our 'Program Planning Lists,' are typically released during our program planning meetings and uploaded to [this page](#) on our website. If you have any questions about using these lists, please [schedule an appointment](#) with one of our faculty advisors.

## THE MINOR IN ARCHITECTURE

**The minor in Architecture is open to Barnard College students, Columbia College students, General Studies students, and SEAS students at Columbia University.**

**The Architecture minor consists of five courses, structured as follows:**

**Studio Courses**

Students must complete at least one of the following studio courses and may apply up to three toward the minor:

ARCH UN1020 INTRO-ARCH DESIGN/VIS CULTURE

ARCH UN2101 ARCHITECTURAL DESIGN:  
SYSTEMS AND MATERIALS

ARCH UN2103 ARCHITECTURAL DESIGN:  
ENVIRONMENTS AND  
MEDIATIONS

**Lecture, Seminar, and Workshop Courses\***

Students must complete the following lecture course:

ARCH UN3117 MOD ARCHITECTURE IN  
THE WORLD

The remaining courses for the minor (a minimum of one, or up to three, depending on the total number of studio courses completed) may include any lecture, seminar, or workshop offered by the Architecture Department or an approved course from a related department, as listed in our program planning list.

## ARCHITECTURE, HISTORY AND THEORY

### THE DEPARTMENT OF ART HISTORY AND ARCHAEOLOGY

Department website: <https://arthistory.columbia.edu/>

Office location: 826 Schermerhorn Hall

Office contact: 212-854-4505

Director of Undergraduate Studies: Professor Barry Bergdoll, [bgb1@columbia.edu](mailto:bgb1@columbia.edu)

Undergraduate Administrator: Emily Benjamin, [eb3061@columbia.edu](mailto:eb3061@columbia.edu)

## THE STUDY OF ART HISTORY

A major, minor, or concentration in the Department of Art History and Archaeology lays the basis for pursuing a variety of careers in and beyond the scholarly pursuit of the history of art, museum work, and work in the commercial art world

of galleries and auction houses. The visual study of the world around us continues to increase in importance as global communication becomes more often based in visual media, and understanding the sources and significance of images that form a common language of communication is crucial for anyone who aspires to play an active part in society. Art History majors have gone on to graduate education as well as careers in law, medicine, business, and academe, among others.

Critical study teaches not only the particulars of the art, archaeology, and architecture under study, but also the broader analytical and synthetic skills needed for mature, reasoned, and inventive solutions to broad-based questions in any field, with particular emphasis on the analysis of visual culture. As one of the largest Art History departments in the world, the Columbia–Barnard faculty include specialists in the art and architecture of an impressive spectrum of cultures and geographies from the Ancient Near East to Contemporary Global Art History. The curriculum offers coursework in the Pre-Columbian New World; in the art and architecture of Africa, of the Indian Subcontinent, of China, of Japan; in addition to many aspects of the art and architecture of North America and Europe, including African-American and diasporic art, and the art of First Nations in the Americas. Methodological approaches offered by the curriculum are equally diverse, including courses which explicitly address issues of gender and race. Several members of the faculty have extensive curatorial experience and regularly offer courses which comprise instruction in the history of collecting, display, and museum practices. Department courses take advantage of the extraordinary cultural resources of New York City and often involve museum assignments and trips to local monuments.

Surveys and advanced lecture courses offered by the Columbia and Barnard art history departments cover art history from antiquity to the present and introduce students to a wide range of materials and methodologies. Limited-enrollment seminars have a narrower focus than lectures and offer intensive instruction in research and writing. The opportunity for advanced research or a senior thesis is available to students who qualify.

The department offers three majors: Art History, History & Theory of Architecture, and a combined Art History + Visual Arts major; as well as two minors/concentrations: Art History, and History & Theory of Architecture.

## STUDENT ADVISING

Director of Undergraduate Studies (DUS): Professor Barry Bergdoll, [bgb1@columbia.edu](mailto:bgb1@columbia.edu)

Undergraduate Administrator: Emily Benjamin, [eb3061@columbia.edu](mailto:eb3061@columbia.edu)

## Consulting Advisers

Students should email the DUS and/or the Undergraduate Program Coordinator for questions regarding the major, minor, or concentration. The department does not assign individual advisors to majors or minors/concentrators. The DUS makes the final decisions on all matters concerning the major, minor, or concentration, including transfer course requests.

Please email the Undergraduate Program Coordinator if you would like to be added to the Art History and Archaeology listserv.

The department holds Open House events in the fall and spring for interested students. The department also holds an Information Session in the spring for students interested in writing a Senior Thesis.

Please refer to the department website for the major, minor, and concentration course requirement checklists: <https://arthistory.columbia.edu/content/planning-sheets-forms-undergraduates>

## Enrolling in Classes

Students may enroll in lectures at the 1000-level, 2000-level, and 4000-level during registration periods. There are no prerequisites for these courses.

Students interested in enrolling in seminars at the 3000-level must submit an online application by the deadlines in April (for seminars taking place in the fall) and November (for seminars taking place in the spring). Students interested in enrolling in seminars at the 4500-level must submit an online application by the deadlines in January (for seminars taking place in the fall) and November (for seminars taking place in the spring). Links to these applications are included with the course descriptions on the department website. Specific deadlines are included on the website as well and are also circulated via the listserv. Once the seminar instructor has determined their class roster, accepted students will be instructed to join the SSOL wait-list so that the department can enroll them in the course.

## Preparing for Graduate Study

Students with questions about pursuing graduate study should email the DUS.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Coursework in fulfillment of a major, minor, or concentration must be taken at Columbia University unless explicitly noted here and/or expressly permitted by the DUS.

Exceptions or substitutions permitted by the DUS should be confirmed in writing by email to the student.

## Advanced Placement

The department does not grant credit for Advanced Placement or International Baccalaureate courses.

## Barnard College Courses

Many art history courses offered in the Art History Department at Barnard are treated as part of the available curriculum for the major, minor, and concentration requirements. Please refer to the Undergraduate Field Distribution Chart, linked from this page, to confirm which courses may count: <https://arthistory.columbia.edu/content/major-requirements>

## Transfer Courses

When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit (e.g., to confirm that the courses will count toward the 124 points of credit that every student is required to complete for the B.A. degree). Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major, minor, or concentration program.

No more than three transfer courses may be counted toward the major or the concentration. No more than one transfer course may be counted toward the minor.

Students should fill out and email a Transfer Credit Request Form with the required attachments (syllabus, unofficial transcript, and example of written work for the course) to the Undergraduate Program Coordinator. The DUS will make the decision on whether the course may count. The form can be found here: <https://arthistory.columbia.edu/content/planning-sheets-forms-undergraduates>

## Study Abroad Courses

Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Undergraduate Global Engagement and taught by Columbia instructors) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus. If they are not explicitly listed by the department as fulfilling requirements in the major, minor, or concentration, the DUS will need to confirm that they can be used toward the requirements.

Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia and are subject to the same policies as other transfer courses. There will be

a limit on the number of courses taken abroad that can be applied to the major, minor, or concentration, and they must be approved by the DUS.

## Summer Courses

Summer courses at Columbia are offered through the School of Professional Studies. Courses taken in a Summer Term may be used toward requirements for the major, minor, or concentration only as articulated in the Department of Art History and Archaeology guidelines or by permission of the DUS. Please refer to the Undergraduate Field Distribution Chart, linked from this page, to confirm which Summer Term courses may count toward the major, minor, or concentration requirements: <https://arthistory.columbia.edu/content/major-requirements>

More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin.

## CORE CURRICULUM CONNECTIONS

Students may be interested in course offerings in Art History that can be taken in fulfillment of the Global Core requirement of the Core Curriculum. See the list of approved courses on [this page of the Bulletin](#).

While Art Humanities does not count toward the major, minor, or concentration requirements, students intending to declare one of these programs are encouraged to enroll in Art Humanities in their first or second year.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

At the heart of the major is the Majors Colloquium (AHIS UN3000 INTRO LIT/METHODS OF ART HIST) which introduces students to different methodological approaches to Art History and critical texts that have shaped the discipline. This course also prepares students for the independent research required in seminars and advanced lecture courses, and should be taken during junior year.

Sign-up information for Art History majors will be circulated via the department listserv.

The Majors Colloquium cannot be substituted by a transfer course.



## Senior Thesis Coursework and Requirements

The Senior Thesis is an optional project open to Art History, History & Theory of Architecture, and combined Art History + Visual Arts majors. It is a year-long project encompassing the senior year, as well as the summer before, and will consume much of winter break and all of spring break. Substantial research and preparation is completed in the summer before the senior year. Submitting a senior thesis qualifies students to compete for departmental honors and (indirectly) strengthens dossiers for university honors. It is also an opportunity for students interested in graduate school to build their academic resumes and experience the intensity and rewards of graduate-style research.

All thesis writers are required to enroll in the year-long (YC) course AHIS UN3002 Senior Thesis Seminar, which is offered as a 3-point seminar in the fall and a 3-point seminar in the spring. This 6-point year-long seminar may substitute for a single elective lecture course. Students receive a grade at the end of the spring term which is applied to both semesters of the seminar. If a student withdraws after the fall term, they will receive a P/F grade for the fall term which cannot be applied to the major.

Securing faculty sponsorship is critical. Speaking with potential advisors during the spring semester of junior year (or earlier) is highly recommended. With approval of the DUS, students may work with a faculty sponsor outside the department. Written confirmation from the advisor is due in May of junior year. In August, students who have secured faculty sponsorship must submit the Senior Thesis Proposal based on research completed over the summer, which includes a proposal of about 400 words, an annotated bibliography, and the signature of the faculty sponsor.

Prospective thesis writers should have a GPA of at least 3.7 in art history courses and should have completed at least six courses counting toward the major requirements, preferably including at least one seminar. The DUS reviews the applications with the goal of ensuring that the student has the academic qualifications to succeed and has identified a credible project. Deadlines will be posted on the department website and circulated on the listserv.

## Undergraduate Research Outside of Courses

Students interested in exploring a specific topic with a faculty member may choose to pursue an independent study project. Students should contact the faculty member who they would like to work with directly. If the faculty member agrees to supervise the independent study, the faculty member will contact the Undergraduate Program Coordinator to have the student registered. Students

may complete an independent study project for 3 points. Independent studies typically count toward lecture credit; exceptions may be made with the approval of the DUS.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

To be considered for departmental honors, students must have a GPA of at least 3.7 in classes for the major and have submitted a senior thesis of distinction. The faculty of the Department of Art History and Archaeology submits recommendations to the Committee on Honors, Awards, and Prizes for confirmation. Normally, no more than ten percent of the graduating majors in the department receive departmental honors.

### Academic Prizes

The Senior Thesis Prize is awarded annually for a senior thesis of superior distinction.

The Judith Lee Stronach Memorial Prize is awarded for outstanding contributions in art history or archaeology by a General Studies student.

## PROFESSORS

Alexander Alberro (Barnard)  
Zainab Bahrani  
Barry Bergdoll  
Julia Bryan-Wilson  
Michael Cole  
Jonathan Crary  
Francesco de Angelis  
David Freedberg  
Anne Higonnet (Barnard)  
Kellie Jones  
Branden W. Joseph  
Holger A. Klein  
Rosalind Krauss  
Matthew McKelway  
Jonathan Reynolds (Barnard)  
Simon Schama  
Avinoam Shalem  
Zoë Strother

## ASSOCIATE PROFESSORS

Diane Bodart  
Zeynep Çelik Alexander  
Noam M. Elcott  
Elizabeth W. Hutchinson (Barnard)  
Subhashini Kaligotla  
Ioannis Mylonopoulos



Lisa Trever  
Jin Xu

## ASSISTANT PROFESSORS

Gregory Bryda (Barnard)  
Meredith Gamer  
Eleonora Pistis  
Michael J. Waters

## ADJUNCT FACULTY

Dawn Delbanco  
Rosalyn Deutsche (Barnard)  
John Rajchman

## LECTURERS

Frederique Baumgartner  
Susannah Blair  
Lucas Cohen  
Sophia D'Addio  
Alessandra di Croce  
Xiaohan Du  
Nicholas Fitch  
Iheb Guermazi  
Page Knox  
Janet Kraynak  
Sandrine Larrive-Bass  
Martina Mims  
Kent Minturn  
Nicholas Morgan  
Freda Murck  
Irina Oryshkevich  
Nina Rosenblatt  
Susan Sivard  
Leslie Tait  
Stefaan Van Liefvering  
Caroline Wamsler  
Leah Werier

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Students who entered Columbia (as first-year students or as transfer students) in or after Fall 2024 may select from a curriculum of majors and minors. The requirements for the Bachelor of Arts degree, and role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Students who entered Columbia in or before the 2023-2024 academic year may select from a curriculum of majors and minors and concentrations. The requirements for the Bachelor of Arts degree, and the role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

When selecting courses in the Department of Art History and Archaeology, students should keep in mind the specifics of course types, distribution requirements, and required coursework as outlined below.

### Course Numbering Structure

1000-level courses are broad survey lectures open to all undergraduate students. They do not count toward a historical or geographical requirement, though they may count as an elective lecture (or as a required course for HTAC programs, in the case of AHIS UN1007).

2000-level courses are survey lectures focusing on a particular subject area. They are open to all students.

3000-level courses are seminars open to undergraduate students only. Seminars

are limited enrollment classes which offer students the opportunity to explore a topic in depth with the instruction of a faculty member who is an expert in that field. Seminars typically require intensive reading and discussion, culminating in an extended research paper and oral presentation. Students must submit an application to be considered for enrollment in a seminar.

4000-4499-level courses are advanced bridge lectures open to undergraduate and graduate students. While instructor approval is not required, undergraduates are expected to have some background in the subject of the course.

4500-4999-level courses are advanced bridge seminars open to undergraduate and graduate students. As with undergraduate seminars, these courses require an application. Advanced knowledge within a field is typically expected. If you have questions about the suitability of a course, please contact the instructor to discuss your qualifications.

### Guidance for First-Year Students

There is no required sequence for completing a major, minor, or concentration in the department. However, first-year students interested in declaring one of these programs are encouraged to take Art Humanities in their first or second year. Students are also encouraged to take several 1000- and/or 2000-level survey lectures before applying for seminars in their junior and senior years.

## Guidance for Transfer Students

There is no required sequence for completing a major, minor, or concentration in the department. However, transfer students interested in declaring one of these programs are encouraged to take Art Humanities earlier rather than later. Transfer students who want to transfer coursework in art history from a previous institution toward their program of study are strongly encouraged to meet with the Undergraduate Program Coordinator as soon as possible to submit these requests.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

#### Major in Art History

The major in Art History requires 11 total courses and can range from 36 to 43 points depending on which classes a student takes to fulfill the requirements.

Students must take three art history courses covering three of four distinct historical periods; two art history courses covering two of five distinct geographic regions; any two additional elective courses in art history; two art history seminars; a studio art course; and the Majors Colloquium. These courses may be taken in any order, though the seminars and the Colloquium are usually taken in junior and/or senior year.

The four historical period distribution categories are pre-400 CE; 400-1400 CE; 1400-1700 CE; and 1700-Present. The five geographic region distribution categories are Africa; Asia; Europe/N. America/Australia; Latin America; and Middle East.

The Majors Colloquium should be taken during junior year. Sign-up information will be circulated via the department listserv. The Majors Colloquium cannot be substituted by a transfer course.

The studio art requirement can be fulfilled by any studio course in the Visual Arts Department. It may be taken Pass/Fail.

The Senior Thesis is an optional project open to Art History, History and Theory of Architecture, and Art History+Visual Arts majors. All thesis writers are required to enroll in the year#long (YC) course AHIS UN3002 Senior Thesis Seminar, which is offered as a 3#point seminar in the fall and a 3#point seminar in the spring. This 6#point year#long seminar may substitute for a single elective lecture course. Please refer to the Overview page for more information about the Senior Thesis.

## Major in History and Theory of Architecture

The major in History and Theory of Architecture requires 11 total courses and can range from 37 to 43 points depending on which classes a student takes to fulfill the requirements.

Students must take AHIS UN1007 Introduction to the History of Architecture; ARCH UN1020 Introduction to Architectural Design and Visual Culture; three art/architectural history courses covering three of four distinct historical periods; one art/architectural history course covering one of four distinct geographic regions; any additional elective course in art/architectural history; two art/architectural history seminars; and the Majors Colloquium. These courses may be taken in any order, though the seminars and the Colloquium are usually taken in junior and/or senior year. Three courses (not counting AHIS UN1007, ARCH UN1020, the Majors Colloquium, or the seminars) must focus on architectural history.

The four historical period distribution categories are pre-400 CE; 400-1400 CE; 1400-1700 CE; and 1700-Present. The four geographic region distribution categories are Africa; Asia; Latin America; and Middle East.

The Majors Colloquium should be taken during junior year. Sign-up information will be circulated via the department listserv. The Majors Colloquium cannot be substituted by a transfer course.

ARCH UN1020 Introduction to Architectural Design and Visual Culture may be taken Pass/Fail.

The Senior Thesis is an optional project open to Art History, History and Theory of Architecture, and Art History+Visual Arts majors. All thesis writers are required to enroll in the year#long (YC) course AHIS UN3002 Senior Thesis Seminar, which is offered as a 3#point seminar in the fall and a 3#point seminar in the spring. This 6#point year#long seminar may substitute for a single elective lecture course. Please refer to the Overview page for more information about the Senior Thesis.

## Combined Major in Art History+Visual Arts

The combined major in Art History+Visual Arts requires 16 total courses and can range from 49 to 57 points depending on which classes a student takes to fulfill the requirements. This is a large major and students are encouraged to begin coursework toward the major in sophomore year. Please contact the Visual Arts Department with questions on enrolling in studio courses and the Department of Art History and Archaeology with questions on art history courses. The DUS/Undergraduate Program Coordinator of both departments should be made aware of any transfer courses.

Students must take three art history courses covering three of four distinct historical periods; two art history courses covering two of five distinct geographic regions; any two additional elective courses in art history; seven three-point studio art courses including Basic Drawing and either Ceramics I or Sculpture I; the Majors Colloquium; and either a senior project in visual arts or a seminar in art history. These courses may be taken in any order, though the seminar, Majors Colloquium, and (optional) senior project in Visual Arts are usually taken in junior and/or senior year.

The four historical period distribution categories are pre-400 CE; 400-1400 CE; 1400-1700 CE; and 1700-Present. The five geographic region distribution categories are Africa; Asia; Europe/N. America/Australia; Latin America; and Middle East.

The Majors Colloquium should be taken during junior year. Sign-up information will be circulated via the department listserv. The Majors Colloquium cannot be substituted by a transfer course.

The art history Senior Thesis is an optional project open to Art History, History and Theory of Architecture, and Art History+Visual Arts majors. All thesis writers are required to enroll in the year#long (YC) course AHIS UN3002 Senior Thesis Seminar, which is offered as a 3#point seminar in the fall and a 3#point seminar in the spring. This 6#point year#long seminar may substitute for a single elective lecture course. Please refer to the Overview page for more information about the Senior Thesis.

## Minor in Art History

The minor in Art History requires 5 total courses and can range from 15 to 20 points depending on which classes a student takes to fulfill the requirements.

Students must take three art history courses covering three of four distinct historical periods; one art history course covering one of four distinct geographic regions; and any additional elective course in art history. At least one seminar is encouraged, though not required.

The four historical period distribution categories are pre-400 CE; 400-1400 CE; 1400-1700 CE; and 1700-Present. The four geographic region distribution categories are Africa; Asia; Latin America; and Middle East.

## Minor in History and Theory of Architecture

The minor in History and Theory of Architecture requires 5 total courses and can range from 16 to 20 points depending on which classes a student takes to fulfill the requirements.

Students must take AHIS UN1007 Introduction to the History of Architecture; three art/architectural history courses covering three of four distinct historical periods; and one art/architectural history course covering one of four

distinct geographic regions. Three courses (not counting AHIS UN1007) must focus on architectural history. At least one seminar is encouraged, though not required.

The four historical distribution categories are pre-400 CE; 400-1400 CE; 1400-1700 CE; and 1700-Present. The four geographic distribution categories are Africa; Asia; Latin America; and Middle East.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

Concentrations are available to students who entered Columbia in or before the 2023-2024 academic year. The requirements for the Bachelor of Arts degree, and the role of the concentration in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Concentrations are not available to students who entered Columbia in or after Fall 2024.

### Concentration in Art History

The concentration in Art History requires 7 total courses and can range from 21 to 28 points depending on which classes a student takes to fulfill the requirements.

Students must take three art history courses covering three of four distinct historical periods; two art history courses covering two of five distinct geographic regions; and any two additional elective courses in art history. These courses may be taken in any order.

The four historical period distribution categories are pre-400 CE; 400-1400 CE; 1400-1700 CE; and 1700-Present. The five geographic region distribution categories are Africa; Asia; Europe/N. America/Australia; Latin America; and Middle East.

### Concentration in History and Theory of Architecture

The concentration in History and Theory of Architecture requires 7 total courses and can range from 22 to 28 points depending on which classes a student takes to fulfill the requirements.

Students must take AHIS UN1007 Introduction to the History of Architecture; three art/architectural history courses covering three of four distinct historical periods; one art/architectural history course covering one of four distinct geographic regions; and any two additional elective courses in art/architectural history. These courses may be taken in

any order. Three courses (not counting AHIS UN1007) must focus on architectural history.

The four historical period distribution categories are pre-400 CE; 400-1400 CE; 1400-1700 CE; and 1700-Present. The four geographic region distribution categories are Africa; Asia; Latin America; and Middle East.

## ART HISTORY

### THE DEPARTMENT OF ART HISTORY AND ARCHAEOLOGY

Department website: <https://arthistory.columbia.edu/>

Office location: 826 Schermerhorn Hall

Office contact: 212-854-4505

Director of Undergraduate Studies: Professor Barry Bergdoll, [bgb1@columbia.edu](mailto:bgb1@columbia.edu)

Undergraduate Administrator: Emily Benjamin, [eb3061@columbia.edu](mailto:eb3061@columbia.edu)

### THE STUDY OF ART HISTORY

A major, minor, or concentration in the Department of Art History and Archaeology lays the basis for pursuing a variety of careers in and beyond the scholarly pursuit of the history of art, museum work, and work in the commercial art world of galleries and auction houses. The visual study of the world around us continues to increase in importance as global communication becomes more often based in visual media, and understanding the sources and significance of images that form a common language of communication is crucial for anyone who aspires to play an active part in society. Art History majors have gone on to graduate education as well as careers in law, medicine, business, and academe, among others.

Critical study teaches not only the particulars of the art, archaeology, and architecture under study, but also the broader analytical and synthetic skills needed for mature, reasoned, and inventive solutions to broad-based questions in any field, with particular emphasis on the analysis of visual culture. As one of the largest Art History departments in the world, the Columbia–Barnard faculty include specialists in the art and architecture of an impressive spectrum of cultures and geographies from the Ancient Near East to Contemporary Global Art History. The curriculum offers coursework in the Pre-Columbian New World; in the art and architecture of Africa, of the Indian Subcontinent, of China, of Japan; in addition to many aspects of the art and architecture of North America and Europe, including African-American and diasporic art, and the art of First Nations in the Americas. Methodological approaches offered

by the curriculum are equally diverse, including courses which explicitly address issues of gender and race. Several members of the faculty have extensive curatorial experience and regularly offer courses which comprise instruction in the history of collecting, display, and museum practices. Department courses take advantage of the extraordinary cultural resources of New York City and often involve museum assignments and trips to local monuments.

Surveys and advanced lecture courses offered by the Columbia and Barnard art history departments cover art history from antiquity to the present and introduce students to a wide range of materials and methodologies. Limited-enrollment seminars have a narrower focus than lectures and offer intensive instruction in research and writing. The opportunity for advanced research or a senior thesis is available to students who qualify.

The department offers three majors: Art History, History & Theory of Architecture, and a combined Art History + Visual Arts major; as well as two minors/concentrations: Art History, and History & Theory of Architecture.

### STUDENT ADVISING

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The department holds Open House events in the fall and spring for interested students. The department also holds an Information Session in the spring for students interested in writing a Senior Thesis.

Please refer to the department website for the major, minor, and concentration course requirement checklists: <https://arthistory.columbia.edu/content/planning-sheets-forms-undergraduates>



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Students may enroll in lectures at the 1000-level, 2000-level, and 4000-level during registration periods. There are no prerequisites for these courses.

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The department does not grant credit for Advanced Placement or International Baccalaureate courses.

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No more than three transfer courses may be counted toward the major or the concentration. No more than one transfer course may be counted toward the minor.

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Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia and are subject to the same policies as other transfer courses. There will be a limit on the number of courses taken abroad that can be applied to the major, minor, or concentration, and they must be approved by the DUS.

## Summer Courses

Summer courses at Columbia are offered through the School of Professional Studies. Courses taken in a Summer Term may be used toward requirements for the major, minor, or concentration only as articulated in the Department of Art History and Archaeology guidelines or by permission of the DUS. Please refer to the Undergraduate Field Distribution Chart, linked from this page, to confirm which Summer Term courses may count toward the major, minor, or concentration requirements: <https://arthistory.columbia.edu/content/major-requirements>

More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin.



## CORE CURRICULUM CONNECTIONS

Students may be interested in course offerings in Art History that can be taken in fulfillment of the Global Core requirement of the Core Curriculum. See the list of approved courses on [this page of the Bulletin](#).

While Art Humanities does not count toward the major, minor, or concentration requirements, students intending to declare one of these programs are encouraged to enroll in Art Humanities in their first or second year.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

At the heart of the major is the Majors Colloquium (AHIS UN3000 INTRO LIT/METHODS OF ART HIST) which introduces students to different methodological approaches to Art History and critical texts that have shaped the discipline. This course also prepares students for the independent research required in seminars and advanced lecture courses, and should be taken during junior year.

Sign-up information for Art History majors will be circulated via the department listserv.

The Majors Colloquium cannot be substituted by a transfer course.

### Senior Thesis Coursework and Requirements

The Senior Thesis is an optional project open to Art History, History & Theory of Architecture, and combined Art History + Visual Arts majors. It is a year-long project encompassing the senior year, as well as the summer before, and will consume much of winter break and all of spring break. Substantial research and preparation is completed in the summer before the senior year. Submitting a senior thesis qualifies students to compete for departmental honors and (indirectly) strengthens dossiers for university honors. It is also an opportunity for students interested in graduate school to build their academic resumes and experience the intensity and rewards of graduate-style research.

All thesis writers are required to enroll in the year-long (YC) course AHIS UN3002 Senior Thesis Seminar, which is offered as a 3-point seminar in the fall and a 3-point seminar in the spring. This 6-point year-long seminar may substitute for a single elective lecture course. Students receive a grade at the end of the spring term which is applied

to both semesters of the seminar. If a student withdraws after the fall term, they will receive a P/F grade for the fall term which cannot be applied to the major.

Securing faculty sponsorship is critical. Speaking with potential advisors during the spring semester of junior year (or earlier) is highly recommended. With approval of the DUS, students may work with a faculty sponsor outside the department. Written confirmation from the advisor is due in May of junior year. In August, students who have secured faculty sponsorship must submit the Senior Thesis Proposal based on research completed over the summer, which includes a proposal of about 400 words, an annotated bibliography, and the signature of the faculty sponsor.

Prospective thesis writers should have a GPA of at least 3.7 in art history courses and should have completed at least six courses counting toward the major requirements, preferably including at least one seminar. The DUS reviews the applications with the goal of ensuring that the student has the academic qualifications to succeed and has identified a credible project. Deadlines will be posted on the department website and circulated on the listserv.

### Undergraduate Research Outside of Courses

Students interested in exploring a specific topic with a faculty member may choose to pursue an independent study project. Students should contact the faculty member who they would like to work with directly. If the faculty member agrees to supervise the independent study, the faculty member will contact the Undergraduate Program Coordinator to have the student registered. Students may complete an independent study project for 3 points. Independent studies typically count toward lecture credit; exceptions may be made with the approval of the DUS.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

To be considered for departmental honors, students must have a GPA of at least 3.7 in classes for the major and have submitted a senior thesis of distinction. The faculty of the Department of Art History and Archaeology submits recommendations to the Committee on Honors, Awards, and Prizes for confirmation. Normally, no more than ten percent of the graduating majors in the department receive departmental honors.

### Academic Prizes

The Senior Thesis Prize is awarded annually for a senior thesis of superior distinction.

The Judith Lee Stronach Memorial Prize is awarded for outstanding contributions in art history or archaeology by a General Studies student.

## PROFESSORS

Alexander Alberro (Barnard)  
Zainab Bahrani  
Barry Bergdoll  
Julia Bryan-Wilson  
Michael Cole  
Jonathan Crary  
Francesco de Angelis  
David Freedberg  
Anne Higonnet (Barnard)  
Kellie Jones  
Branden W. Joseph  
Holger A. Klein  
Rosalind Krauss  
Matthew McKelway  
Jonathan Reynolds (Barnard)  
Simon Schama  
Avinoam Shalem  
Zoë Strother

## ASSOCIATE PROFESSORS

Diane Bodart  
Zeynep Çelik Alexander  
Noam M. Elcott  
Elizabeth W. Hutchinson (Barnard)  
Subhashini Kaligotla  
Ioannis Mylonopoulos  
Lisa Trever  
Jin Xu

## ASSISTANT PROFESSORS

Gregory Bryda (Barnard)  
Meredith Gamer  
Eleonora Pistis  
Michael J. Waters

## ADJUNCT FACULTY

Dawn Delbanco  
Rosalyn Deutsche (Barnard)  
John Rajchman

## LECTURERS

Frederique Baumgartner  
Susannah Blair  
Lucas Cohen  
Sophia D'Addio  
Alessandra di Croce  
Xiaohan Du  
Nicholas Fitch

Iheb Guermazi  
Page Knox  
Janet Kraynak  
Sandrine Larrive-Bass  
Martina Mims  
Kent Minturn  
Nicholas Morgan  
Freda Murck  
Irina Oryshkevich  
Nina Rosenblatt  
Susan Sivard  
Leslie Tait  
Stefaan Van Liefferinge  
Caroline Wamsler  
Leah Werier

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Students who entered Columbia (as first-year students or as transfer students) in or after Fall 2024 may select from a curriculum of majors and minors. The requirements for the Bachelor of Arts degree, and role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Students who entered Columbia in or before the 2023-2024 academic year may select from a curriculum of majors and minors and concentrations. The requirements for the Bachelor of Arts degree, and the role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

When selecting courses in the Department of Art History and Archaeology, students should keep in mind the specifics of course types, distribution requirements, and required coursework as outlined below.

### Course Numbering Structure

1000-level courses are broad survey lectures open to all undergraduate students. They do not count toward a historical or geographical requirement, though they may count as an elective lecture (or as a required course for HTAC programs, in the case of AHIS UN1007).

2000-level courses are survey lectures focusing on a particular subject area. They are open to all students.

3000-level courses are seminars open to undergraduate students only. Seminars

are limited enrollment classes which offer students the opportunity to explore a topic in depth with the instruction of a faculty member who is an expert in that field. Seminars typically require intensive reading and discussion, culminating in an extended research paper and oral presentation. Students must submit an application to be considered for enrollment in a seminar.

4000-4499-level courses are advanced bridge lectures open to undergraduate and graduate students. While instructor approval is not required, undergraduates are expected to have some background in the subject of the course.

4500-4999-level courses are advanced bridge seminars open to undergraduate and graduate students. As with undergraduate seminars, these courses require an application. Advanced knowledge within a field is typically expected. If you have questions about the suitability of a course, please contact the instructor to discuss your qualifications.

## Guidance for First-Year Students

There is no required sequence for completing a major, minor, or concentration in the department. However, first-year students interested in declaring one of these programs are encouraged to take Art Humanities in their first or second year. Students are also encouraged to take several 1000- and/or 2000-level survey lectures before applying for seminars in their junior and senior years.

## Guidance for Transfer Students

There is no required sequence for completing a major, minor, or concentration in the department. However, transfer students interested in declaring one of these programs are encouraged to take Art Humanities earlier rather than later. Transfer students who want to transfer coursework in art history from a previous institution toward their program of study are strongly encouraged to meet with the Undergraduate Program Coordinator as soon as possible to submit these requests.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

#### Major in Art History

The major in Art History requires 11 total courses and can range from 36 to 43 points depending on which classes a student takes to fulfill the requirements.

Students must take three art history courses covering three of four distinct historical periods; two art history courses

covering two of five distinct geographic regions; any two additional elective courses in art history; two art history seminars; a studio art course; and the Majors Colloquium. These courses may be taken in any order, though the seminars and the Colloquium are usually taken in junior and/or senior year.

The four historical period distribution categories are pre-400 CE; 400-1400 CE; 1400-1700 CE; and 1700-Present. The five geographic region distribution categories are Africa; Asia; Europe/N. America/Australia; Latin America; and Middle East.

The Majors Colloquium should be taken during junior year. Sign-up information will be circulated via the department listserv. The Majors Colloquium cannot be substituted by a transfer course.

The studio art requirement can be fulfilled by any studio course in the Visual Arts Department. It may be taken Pass/Fail.

The Senior Thesis is an optional project open to Art History, History and Theory of Architecture, and Art History+Visual Arts majors. All thesis writers are required to enroll in the year-long (YC) course AHIS UN3002 Senior Thesis Seminar, which is offered as a 3-point seminar in the fall and a 3-point seminar in the spring. This 6-point year-long seminar may substitute for a single elective lecture course. Please refer to the Overview page for more information about the Senior Thesis.

## Major in History and Theory of Architecture

The major in History and Theory of Architecture requires 11 total courses and can range from 37 to 43 points depending on which classes a student takes to fulfill the requirements.

Students must take AHIS UN1007 Introduction to the History of Architecture; ARCH UN1020 Introduction to Architectural Design and Visual Culture; three art/architectural history courses covering three of four distinct historical periods; one art/architectural history course covering one of four distinct geographic regions; any additional elective course in art/architectural history; two art/architectural history seminars; and the Majors Colloquium. These courses may be taken in any order, though the seminars and the Colloquium are usually taken in junior and/or senior year. Three courses (not counting AHIS UN1007, ARCH UN1020, the Majors Colloquium, or the seminars) must focus on architectural history.

The four historical period distribution categories are pre-400 CE; 400-1400 CE; 1400-1700 CE; and 1700-Present. The four geographic region distribution categories are Africa; Asia; Latin America; and Middle East.

The Majors Colloquium should be taken during junior year. Sign-up information will be circulated via the department listserv. The Majors Colloquium cannot be substituted by a transfer course.

ARCH UN1020 Introduction to Architectural Design and Visual Culture may be taken Pass/Fail.

The Senior Thesis is an optional project open to Art History, History and Theory of Architecture, and Art History+Visual Arts majors. All thesis writers are required to enroll in the year#long (YC) course AHIS UN3002 Senior Thesis Seminar, which is offered as a 3#point seminar in the fall and a 3#point seminar in the spring. This 6#point year#long seminar may substitute for a single elective lecture course. Please refer to the Overview page for more information about the Senior Thesis.

## **Combined Major in Art History+Visual Arts**

The combined major in Art History+Visual Arts requires 16 total courses and can range from 49 to 57 points depending on which classes a student takes to fulfill the requirements. This is a large major and students are encouraged to begin coursework toward the major in sophomore year. Please contact the Visual Arts Department with questions on enrolling in studio courses and the Department of Art History and Archaeology with questions on art history courses. The DUS/Undergraduate Program Coordinator of both departments should be made aware of any transfer courses.

Students must take three art history courses covering three of four distinct historical periods; two art history courses covering two of five distinct geographic regions; any two additional elective courses in art history; seven three-point studio art courses including Basic Drawing and either Ceramics I or Sculpture I; the Majors Colloquium; and either a senior project in visual arts or a seminar in art history. These courses may be taken in any order, though the seminar, Majors Colloquium, and (optional) senior project in Visual Arts are usually taken in junior and/or senior year.

The four historical period distribution categories are pre-400 CE; 400-1400 CE; 1400-1700 CE; and 1700-Present. The five geographic region distribution categories are Africa; Asia; Europe/N. America/Australia; Latin America; and Middle East.

The Majors Colloquium should be taken during junior year. Sign-up information will be circulated via the department listserv. The Majors Colloquium cannot be substituted by a transfer course.

The art history Senior Thesis is an optional project open to Art History, History and Theory of Architecture, and Art History+Visual Arts majors. All thesis writers are required to enroll in the year#long (YC) course AHIS UN3002 Senior Thesis Seminar, which is offered as a 3#point seminar in

the fall and a 3#point seminar in the spring. This 6#point year#long seminar may substitute for a single elective lecture course. Please refer to the Overview page for more information about the Senior Thesis.

## **Minor in Art History**

The minor in Art History requires 5 total courses and can range from 15 to 20 points depending on which classes a student takes to fulfill the requirements.

Students must take three art history courses covering three of four distinct historical periods; one art history course covering one of four distinct geographic regions; and any additional elective course in art history. At least one seminar is encouraged, though not required.

The four historical period distribution categories are pre-400 CE; 400-1400 CE; 1400-1700 CE; and 1700-Present. The four geographic region distribution categories are Africa; Asia; Latin America; and Middle East.

## **Minor in History and Theory of Architecture**

The minor in History and Theory of Architecture requires 5 total courses and can range from 16 to 20 points depending on which classes a student takes to fulfill the requirements.

Students must take AHIS UN1007 Introduction to the History of Architecture; three art/architectural history courses covering three of four distinct historical periods; and one art/architectural history course covering one of four distinct geographic regions. Three courses (not counting AHIS UN1007) must focus on architectural history. At least one seminar is encouraged, though not required.

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## **FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR**

Concentrations are available to students who entered Columbia in or before the 2023-2024 academic year. The requirements for the Bachelor of Arts degree, and the role of the concentration in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Concentrations are not available to students who entered Columbia in or after Fall 2024.



## Concentration in Art History

The concentration in Art History requires 7 total courses and can range from 21 to 28 points depending on which classes a student takes to fulfill the requirements.

Students must take three art history courses covering three of four distinct historical periods; two art history courses covering two of five distinct geographic regions; and any two additional elective courses in art history. These courses may be taken in any order.

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## Concentration in History and Theory of Architecture

The concentration in History and Theory of Architecture requires 7 total courses and can range from 22 to 28 points depending on which classes a student takes to fulfill the requirements.

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# ART HISTORY-VISUAL ARTS

## THE DEPARTMENT OF ART HISTORY AND ARCHAEOLOGY

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## CORE CURRICULUM CONNECTIONS

Students may be interested in course offerings in Art History that can be taken in fulfillment of the Global Core requirement of the Core Curriculum. See the list of approved courses on [this page of the Bulletin](#).

While Art Humanities does not count toward the major, minor, or concentration requirements, students intending to declare one of these programs are encouraged to enroll in Art Humanities in their first or second year.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

At the heart of the major is the Majors Colloquium (AHIS UN3000 INTRO LIT/METHODS OF ART HIST) which introduces students to different methodological approaches to Art History and critical texts that have shaped the discipline. This course also prepares students for the independent research required in seminars and advanced lecture courses, and should be taken during junior year.

Sign-up information for Art History majors will be circulated via the department listserv.

The Majors Colloquium cannot be substituted by a transfer course.

## Senior Thesis Coursework and Requirements

The Senior Thesis is an optional project open to Art History, History & Theory of Architecture, and combined Art History + Visual Arts majors. It is a year-long project encompassing the senior year, as well as the summer before, and will consume much of winter break and all of spring break. Substantial research and preparation is completed in the summer before the senior year. Submitting a senior thesis qualifies students to compete for departmental honors and (indirectly) strengthens dossiers for university honors. It is also an opportunity for students interested in graduate school to build their academic resumes and experience the intensity and rewards of graduate-style research.

All thesis writers are required to enroll in the year-long (YC) course AHIS UN3002 Senior Thesis Seminar, which is offered as a 3-point seminar in the fall and a 3-point seminar in the spring. This 6-point year-long seminar may substitute for a single elective lecture course. Students receive a grade at the end of the spring term which is applied to both semesters of the seminar. If a student withdraws after the fall term, they will receive a P/F grade for the fall term which cannot be applied to the major.

Securing faculty sponsorship is critical. Speaking with potential advisors during the spring semester of junior year (or earlier) is highly recommended. With approval of the DUS, students may work with a faculty sponsor outside the department. Written confirmation from the advisor is due in May of junior year. In August, students who have secured faculty sponsorship must submit the Senior Thesis Proposal based on research completed over the summer, which includes a proposal of about 400 words, an annotated bibliography, and the signature of the faculty sponsor.

Prospective thesis writers should have a GPA of at least 3.7 in art history courses and should have completed at least six courses counting toward the major requirements, preferably including at least one seminar. The DUS reviews the applications with the goal of ensuring that the student has the academic qualifications to succeed and has identified a credible project. Deadlines will be posted on the department website and circulated on the listserv.

## Undergraduate Research Outside of Courses

Students interested in exploring a specific topic with a faculty member may choose to pursue an independent study project. Students should contact the faculty member who they would like to work with directly. If the faculty member agrees to supervise the independent study, the faculty member will contact the Undergraduate Program Coordinator to have the student registered. Students may complete an independent study project for 3 points. Independent studies typically count toward lecture credit; exceptions may be made with the approval of the DUS.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

To be considered for departmental honors, students must have a GPA of at least 3.7 in classes for the major and have submitted a senior thesis of distinction. The faculty of the Department of Art History and Archaeology submits recommendations to the Committee on Honors, Awards, and Prizes for confirmation. Normally, no more than ten percent of the graduating majors in the department receive departmental honors.

### Academic Prizes

The Senior Thesis Prize is awarded annually for a senior thesis of superior distinction.

The Judith Lee Stronach Memorial Prize is awarded for outstanding contributions in art history or archaeology by a General Studies student.

## PROFESSORS

Alexander Alberro (Barnard)  
Zainab Bahrani  
Barry Bergdoll  
Julia Bryan-Wilson  
Michael Cole  
Jonathan Crary  
Francesco de Angelis  
David Freedberg  
Anne Higonnet (Barnard)  
Kellie Jones  
Branden W. Joseph  
Holger A. Klein  
Rosalind Krauss  
Matthew McKelway  
Jonathan Reynolds (Barnard)

Simon Schama  
Avinoam Shalem  
Zoë Strother

## ASSOCIATE PROFESSORS

Diane Bodart  
Zeynep Çelik Alexander  
Noam M. Elcott  
Elizabeth W. Hutchinson (Barnard)  
Subhashini Kaligotla  
Ioannis Mylonopoulos  
Lisa Trever  
Jin Xu

## ASSISTANT PROFESSORS

Gregory Bryda (Barnard)  
Meredith Gamer  
Eleonora Pistis  
Michael J. Waters

## ADJUNCT FACULTY

Dawn Delbanco  
Roselyn Deutsche (Barnard)  
John Rajchman

## LECTURERS

Frederique Baumgartner  
Susannah Blair  
Lucas Cohen  
Sophia D'Addio  
Alessandra di Croce  
Xiaohan Du  
Nicholas Fitch  
Iheb Guermazi  
Page Knox  
Janet Kraynak  
Sandrine Larrive-Bass  
Martina Mims  
Kent Minturn  
Nicholas Morgan  
Freda Murck  
Irina Oryshkevich  
Nina Rosenblatt  
Susan Sivard  
Leslie Tait  
Stefaan Van Liefferinge  
Caroline Wamsler  
Leah Werier

## MAJOR IN ART HISTORY AND VISUAL ARTS

Students electing the combined major should consult with a faculty adviser in the department, as well as with the director of undergraduate studies in the Visual Arts Department.

Up to two of the seven 3-point courses in art history may be replaced by a specifically related course in another department with approval of the adviser. The combined major requires fulfillment of sixteen or seventeen courses. It is recommended that students interested in this major begin work toward the requirements in their sophomore year.

The requirements for the major are as follows:

AHIS W3895      Majors' Colloquium: the  
Literature and Methods of Art  
History

Seven 3-point lecture courses in art history.

At least one course in three of four historical periods, as listed below.

An additional two courses drawn from at least two different world regions, as listed below.

Two additional lectures of the student's choice

21 points in Visual Arts covering:

VIAR R1001      Basic Drawing

VIAR R3330      Sculpture I

Five additional VIAR R3000-level or above course

In the senior year, students undertake either a seminar in the Department of Art History and Archaeology or a senior project in visual arts (pending approval by the Visual Arts Department).

NOTE: These chronological divisions are approximate. In case of ambiguities about the eligibility of a course to fill the requirement, please consult the director of undergraduate studies.

### Historical Periods

- Ancient (up to 400 CE/AD)
- 400-1400
- 1400-1700
- 1700-present

### World Regions

- Africa
- Asia
- Europe, North America, Australia
- Latin America
- Middle East

## ASTRONOMY

### THE ASTRONOMY DEPARTMENT:

Department website: <https://www.astro.columbia.edu/>

Office location: 1328 Pupin

Office contact: 212-854-3278

Director of Undergraduate Studies:

Professor Frederik (Frits) Paerels, 1022 Pupin,  
[frits@astro.columbia.edu](mailto:frits@astro.columbia.edu)

## THE STUDY OF ASTRONOMY AND ASTROPHYSICS

Astronomy is, at once, the oldest science and one of the most vibrant fields of modern research. Its goal is to construct testable, quantitative, coherent models of the universe (the UNItY of the diVERSE) and its contents—galaxies, stars, and planets. The department offers two majors, both of which require a solid grounding in the mathematics and physics necessary for the pursuit of the discipline.

## STUDENT ADVISING

Professor Frederik (Frits) Paerels (DUS), 1022 Pupin,  
[frits@astro.columbia.edu](mailto:frits@astro.columbia.edu)

### Consulting Advisers

We mostly do advising on an individual basis. You can stop by during office hours (changing, check the department Undergraduate Advising page: <https://www.astro.columbia.edu/content/undergraduate>), or you can make an appointment with the DUS (email). The DUS encourages you to come by in person and talk, and limit 'email advising'. We get to know you better that way (and you us), and the DUS can talk much faster than he can type.

You can sign up for our general department events email list: send email to [listserv@lists.columbia.edu](mailto:listserv@lists.columbia.edu) and include this line in the body of the message (not the subject line): subscribe astro-events (your first name)(your last name). All information important to undergraduate students (events, opportunities, meetings, curriculum, etc.) is sent to the undergraduate email list; to subscribe, send email to [listserv@lists.columbia.edu](mailto:listserv@lists.columbia.edu) and include this line in the body of the message (not the subject line): subscribe astro-ugs (your first name)(your last name). Consider joining the society of undergraduate students in astronomy: <https://blueshift.astro.columbia.edu>. To sign up to their mailing list, send email to [listserv@lists.columbia.edu](mailto:listserv@lists.columbia.edu), and include this line in the body of the message (not the subject line): subscribe blueshift (your first name)(your last name).

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You can find a one-page undergraduate astronomy flyer here:



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You can find a suggested schedule of courses for the major (but note that this is not a mandatory or necessary time sequence; it's meant to help you start thinking):

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There are no specific steps, prerequisites, or placement tests to enroll in any astronomy classes, other than the ones that are listed in the Bulletin (e.g. you should have taken basic calculus before enrolling in the Introductory Physics Sequence, and the Introduction to Astrophysics sequence).

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The astrophysics major is designed as preparation for graduate study and consists of a standard physics major sequence; a yearlong introduction to astrophysics (typically taken in the sophomore year, but open to first-years with adequate preparation in calculus and physics); and two required courses covering advanced topics in astronomy. Research, in the form of summer internships and/or term-time independent projects, which can lead to a senior thesis, is strongly encouraged. For a research thesis, students should enroll in the parallel, two-semester sequence ASTR UN3997-ASTR UN3998 INDEPENDENT RESEARCH, preferably in their senior year. Students begin the research project in the fall and complete the written thesis in the spring.

The astronomy major provides a basis for further study in the field, but is also designed to be compatible with liberal arts students who pursue other careers and those wishing to combine astronomy with related sciences other than physics, such as chemistry or geology. It requires only two physics courses beyond the introductory sequence and can be completed easily if begun in the sophomore year.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The standard CC rules for AP credit apply. If you are wondering whether AP Physics can be counted: our standard advice is to take the Intro Physics sequence anyway, unless special circumstances apply.

### Barnard College Courses

1000-level Astronomy courses taken at Barnard are equivalent to 1000-level courses at Columbia. When working on an Astrophysics Major, you may replace the Physics

4021/4022 Quantum Mechanics I, II sequence by: BC 3006 Quantum Physics plus Physics 4023 Statistical Physics.

## Transfer Courses

The standard Columbia College (and School of General Studies) rules with regard to transfer credit apply.

## Study Abroad Courses

If you are considering studying abroad for a semester, come talk to the DUS. We can find courses that will fulfill Columbia requirements at many institutions (and may even be able to tell you about individual instructors in astrophysics courses...). Students have taken courses as far afield as Tokyo and Istanbul.

## Summer Courses

The department usually teaches one 1000-level Summer course (Astronomy 1403 or 1404).

## CORE CURRICULUM CONNECTIONS

In a deep sense: connections everywhere. In a narrow sense: no connection.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

You are encouraged to undertake an original research project, especially if you want to prepare for graduate school. You can enroll in Astronomy 3997 (Fall semesters) or 3998 (Spring semesters) for a semester-long research project, for 3 credits. The general expectation is that this will take about as much time as taking a regular 3-credit class (about a day per week).

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Many students use one Summer (sometimes multiple Summers) to conduct research. The Department usually organizes an informational meeting in the Fall semester on how you can go about finding opportunities (sign up for the department undergraduate mailing list to receive announcements).

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The Department of Astronomy does not have Departmental Honors or Prizes. The Department has a Research Fellowship for Astronomy or Astrophysics Majors at CC, BC, and GS, the Bell-Burnell Fellowship, to carry out research in the Summer between the junior and senior years.



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 Rebecca Oppenheimer (Hayden Planetarium)  
 Michael Shara (Hayden Planetarium)  
 Ruth Angus (Hayden Planetarium)

## ADJUNCT SENIOR RESEARCH SCIENTIST

Melissa K. Ness

## ON LEAVE

Profs. Bryan, Johnston (Spring 2025)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

If you are interested in pursuing a Major in Astronomy or Astrophysics, make an appointment with the DUS to discuss a course of study, and do this early. The programs can in principle be completed in two years- but only if you have already completed almost all other requirements. Most students prefer to start on Major-required courses in their first and/or second year. You can find an example schedule here: <https://www.astro.columbia.edu/sites/default/files/>

[content/docs/Suggested%20Sequence%20of%20Courses%20for%20Majors.pdf](#)

There is an implied progressive structure to some of the courses: for instance, taking the Introductory Physics Sequence means you should have taken basic Calculus. Likewise, starting on the Introduction to Astrophysics sequence means you know basic, calculus-based physics. If in doubt about the flexibility of the schedule, talk to the DUS.

Courses in which the grade of D has been received do not count toward the major, minor, or concentration requirements.

### Course Numbering Structure

The 1000-level courses do not use calculus (but they are quantitative!), and are meant to provide an overview of fields of astronomy and astrophysics for non-major students. They can all count towards fulfilling the science requirements for non-science majors. With one exception (see under the Astronomy Major), the 1000-level courses can not be counted towards the credits for an Astrophysics or Astronomy Major.

The 2000-level courses (Introduction to Astrophysics I and II) provide an overview of astrophysics at the introductory professional level: calculus based, physics-based.

3000-level courses in the Astronomy department are more advanced electives. They generally assume you are familiar with the content of the 2000-level courses. Most 3000-level courses, as well as ASTR GU4260 MODELING THE UNIVERSE, are offered every other year. Students should inquire with the director of undergraduate studies if they have specific questions on the course schedule. ASTR UN3996 Current Research in Astrophysics is a one-point course offered in the fall, designed to introduce majors to research methods and topics. It requires students to attend the department colloquia and a seminar designed to help students understand the colloquium topic. The 3000-level courses need not be taken in any particular order.

4000-level courses are aimed at advanced undergraduates and beginning graduate students.

### Guidance for First-Year Students

If you think you may want to pursue a Major in Astronomy or Astrophysics, come talk to the DUS. If you have to make quick decisions by yourself: the rule of thumb is: start with the Math requirements, the next priority is Introductory Physics, then Astrophysics and Astronomy.

### Guidance for Transfer Students

The standard Columbia College rules for transfer credit apply. You should contact the DUS as soon as you know you are transferring to plan for what will probably be a tight

program (depending in what year you transfer, but especially when you start as a junior).

If you are considering applying to graduate school, we need to make sure, in particular, that you get to do an individual research project.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

Common to both the Astronomy and the Astrophysics Major are the Calculus sequence and an Introductory Physics sequence (the Physics 1400, 1600, or 2800 series).

### Major in Astronomy

#### Mathematics

Calculus sequence through MATH UN1202 Calculus IV or MATH UN1208 Honors Mathematics IV

#### Astronomy

Select one of the following options:

##### Option 1:

Two 3-point 1000-level astronomy courses

12 points in astronomy at the 2000-level or above

##### Option 2:

ASTR UN2001      INTRO TO ASTROPHYSICS I  
& ASTR UN2002      and INTRO TO  
                                 ASTROPHYSICS II

9 points in astronomy at the 3000-level or above

#### Physics

Select one of the following physics sequences:

##### Sequence 1:

PHYS UN1401      INTRO TO MECHANICS #  
& PHYS UN1402      THERMO  
& PHYS UN1403      and INTRO ELEC/  
                                 MAGNETISM # OPTCS  
                                 and INTRO-CLASSCL #  
                                 QUANTUM WAVES

##### Sequence 2:

PHYS UN1601      PHYSICS I:MECHANICS/  
& PHYS UN1602      RELATIVITY  
& PHYS UN2601      and PHYSICS II: THERMO,  
                                 ELEC # MAG  
                                 and PHYSICS III:CLASS/  
                                 QUANTUM WAVE

##### Sequence 3:

PHYS UN2801      ACCELERATED PHYSICS I  
& PHYS UN2802      and ACCELERATED  
                                 PHYSICS II

#### Additional Physics Courses

Two physics courses at the 3000-level or above

Students contemplating graduate study are advised to include at least two of these physics courses:

PHYS UN3003	MECHANICS
PHYS UN3007	ELECTRICITY-MAGNETISM
PHYS GU4021 & PHYS GU4022	QUANTUM MECHANICS I and QUANTUM MECHANICS II

One of these may be substituted for 3 points of astronomy.

### Major in Astrophysics

Students considering an Astrophysics major are encouraged to meet with the director of undergraduate studies. If possible, it is useful to start the physics sequence in the first year.

#### Mathematics

Calculus sequence through MATH UN1202 Calculus IV or MATH UN1208 Honors Mathematics IV

#### Astronomy

ASTR UN2001      INTRO TO ASTROPHYSICS I  
& ASTR UN2002      and INTRO TO  
                                 ASTROPHYSICS II

6 points in astronomy at the 3000-level or above

#### Physics

Select one of the following physics sequences:

##### Sequence 1:

PHYS UN1401      INTRO TO MECHANICS #  
& PHYS UN1402      THERMO  
& PHYS UN1403      and INTRO ELEC/  
                                 MAGNETISM # OPTCS  
                                 and INTRO-CLASSCL #  
                                 QUANTUM WAVES

##### Sequence 2:

PHYS UN1601      PHYSICS I:MECHANICS/  
& PHYS UN1602      RELATIVITY  
& PHYS UN2601      and PHYSICS II: THERMO,  
                                 ELEC # MAG  
                                 and PHYSICS III:CLASS/  
                                 QUANTUM WAVE

##### Sequence 3:

PHYS UN2801      ACCELERATED PHYSICS I  
& PHYS UN2802      and ACCELERATED  
                                 PHYSICS II

#### Additional Physics Courses

PHYS UN3003	MECHANICS
PHYS UN3007	ELECTRICITY-MAGNETISM
PHYS UN3008	ELECTROMAGNETIC WAVES # OPTICS
PHYS GU4021 & PHYS GU4022	QUANTUM MECHANICS I and QUANTUM MECHANICS II

OR

PHYS BC3006 & PHYS GU4023	QUANTUM PHYSICS and THERMAL # STATISTICAL PHYSICS
------------------------------	---

## Joint Minor -- Earth and Space

Note that the information on this page is identical to the information on the corresponding page for the Department of Earth and Environmental Sciences.

The minor in Earth and Space requires a minimum of 15 points, distributed as follows:

### Introductory Course

3 points minimum (one course):

One of the following:

ASTR UN1453	ANOTHER EARTH
ASTR BC1753	LIFE IN THE UNIVERSE
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

### Astronomy Courses

6 points minimum (two courses):

Two of the following:

ASTR UN1403	EARTH, MOON, AND PLANETS
ASTR UN1404	STARS, GALAXIES # COSMOLOGY
ASTR UN1420	Galaxies and Cosmology
ASTR UN1836	STARS AND ATOMS

Or the following ASTR sequence:

ASTR UN2001	INTRO TO ASTROPHYSICS I
ASTR UN2002	INTRO TO ASTROPHYSICS II

### DEES Courses

6 points minimum (two courses):

One of the following:

EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
-------------	--

EESC UN3201	SOLID EARTH DYNAMICS
-------------	----------------------

Plus one of the following:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN3101	Geochemistry for a Habitable Planet

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Astronomy

An extra 3 points of physics can substitute for 3 points of astronomy, as long as the course submitted is at the equivalent or higher level. The concentration requirements are as follows:

#### Mathematics

9 points of mathematics

#### Astronomy

15 points of astronomy, nine of which must be at or above the 2000-level

#### Physics

9 points of physics

## ASTROPHYSICS

### THE ASTRONOMY DEPARTMENT:

Department website: <https://www.astro.columbia.edu/>

Office location: 1328 Pupin

Office contact: 212-854-3278

Director of Undergraduate Studies:

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### Summer Courses

The department usually teaches one 1000-level Summer course (Astronomy 1403 or 1404).

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## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

If you are interested in pursuing a Major in Astronomy or Astrophysics, make an appointment with the DUS to discuss a course of study, and do this early. The programs can in principle be completed in two years- but only if you have already completed almost all other requirements. Most students prefer to start on Major-required courses in their first and/or second year. You can find an example schedule here: <https://www.astro.columbia.edu/sites/default/files/content/docs/Suggested%20Sequence%20of%20Courses%20for%20Majors.pdf>

There is an implied progressive structure to some of the courses: for instance, taking the Introductory Physics Sequence means you should have taken basic Calculus. Likewise, starting on the Introduction to Astrophysics sequence means you know basic, calculus-based physics. If in doubt about the flexibility of the schedule, talk to the DUS.

Courses in which the grade of D has been received do not count toward the major, minor, or concentration requirements.

### Course Numbering Structure

The 1000-level courses do not use calculus (but they are quantitative!), and are meant to provide an overview of fields of astronomy and astrophysics for non-major students. They can all count towards fulfilling the science requirements for non-science majors. With one exception (see under the Astronomy Major), the 1000-level courses can not be counted towards the credits for an Astrophysics or Astronomy Major.



The 2000-level courses (Introduction to Astrophysics I and II) provide an overview of astrophysics at the introductory professional level: calculus based, physics-based.

3000-level courses in the Astronomy department are more advanced electives. They generally assume you are familiar with the content of the 2000-level courses. Most 3000-level courses, as well as ASTR GU4260 MODELING THE UNIVERSE, are offered every other year. Students should inquire with the director of undergraduate studies if they have specific questions on the course schedule. ASTR UN3996 Current Research in Astrophysics is a one-point course offered in the fall, designed to introduce majors to research methods and topics. It requires students to attend the department colloquia and a seminar designed to help students understand the colloquium topic. The 3000-level courses need not be taken in any particular order.

4000-level courses are aimed at advanced undergraduates and beginning graduate students.

## Guidance for First-Year Students

If you think you may want to pursue a Major in Astronomy or Astrophysics, come talk to the DUS. If you have to make quick decisions by yourself: the rule of thumb is: start with the Math requirements, the next priority is Introductory Physics, then Astrophysics and Astronomy.

## Guidance for Transfer Students

The standard Columbia College rules for transfer credit apply. You should contact the DUS as soon as you know you are transferring to plan for what will probably be a tight program (depending in what year you transfer, but especially when you start as a junior).

If you are considering applying to graduate school, we need to make sure, in particular, that you get to do an individual research project.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

Common to both the Astronomy and the Astrophysics Major are the Calculus sequence and an Introductory Physics sequence (the Physics 1400, 1600, or 2800 series).

### Major in Astronomy

#### Mathematics

Calculus sequence through MATH UN1202 Calculus IV or MATH UN1208 Honors Mathematics IV

#### Astronomy

Select one of the following options:

##### Option 1:

Two 3-point 1000-level astronomy courses

12 points in astronomy at the 2000-level or above

##### Option 2:

ASTR UN2001 & ASTR UN2002	INTRO TO ASTROPHYSICS I and INTRO TO ASTROPHYSICS II
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9 points in astronomy at the 3000-level or above

#### Physics

Select one of the following physics sequences:

##### Sequence 1:

PHYS UN1401 & PHYS UN1402 & PHYS UN1403	INTRO TO MECHANICS # THERMO and INTRO ELEC/ MAGNETISM # OPTCS and INTRO-CLASSCL # QUANTUM WAVES
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##### Sequence 2:

PHYS UN1601 & PHYS UN1602 & PHYS UN2601	PHYSICS I:MECHANICS/ RELATIVITY and PHYSICS II: THERMO, ELEC # MAG and PHYSICS III:CLASS/ QUANTUM WAVE
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##### Sequence 3:

PHYS UN2801 & PHYS UN2802	ACCELERATED PHYSICS I and ACCELERATED PHYSICS II
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#### Additional Physics Courses

Two physics courses at the 3000-level or above

Students contemplating graduate study are advised to include at least two of these physics courses:

PHYS UN3003	MECHANICS
PHYS UN3007	ELECTRICITY-MAGNETISM
PHYS GU4021 & PHYS GU4022	QUANTUM MECHANICS I and QUANTUM MECHANICS II

One of these may be substituted for 3 points of astronomy.

### Major in Astrophysics

Students considering an Astrophysics major are encouraged to meet with the director of undergraduate studies. If possible, it is useful to start the physics sequence in the first year.

#### Mathematics

Calculus sequence through MATH UN1202 Calculus IV or MATH UN1208 Honors Mathematics IV

#### Astronomy

ASTR UN2001 & ASTR UN2002	INTRO TO ASTROPHYSICS I and INTRO TO ASTROPHYSICS II
------------------------------	--

6 points in astronomy at the 3000-level or above

**Physics**

Select one of the following physics sequences:

**Sequence 1:**

PHYS UN1401 & PHYS UN1402 & PHYS UN1403  
INTRO TO MECHANICS # THERMO and INTRO ELEC/ MAGNETISM # OPTICS and INTRO-CLASSCL # QUANTUM WAVES

**Sequence 2:**

PHYS UN1601 & PHYS UN1602 & PHYS UN2601  
PHYSICS I:MECHANICS/ RELATIVITY and PHYSICS II: THERMO, ELEC # MAG and PHYSICS III:CLASS/ QUANTUM WAVE

**Sequence 3:**

PHYS UN2801 & PHYS UN2802  
ACCELERATED PHYSICS I and ACCELERATED PHYSICS II

**Additional Physics Courses**

PHYS UN3003 MECHANICS  
PHYS UN3007 ELECTRICITY-MAGNETISM  
PHYS UN3008 ELECTROMAGNETIC WAVES # OPTICS

PHYS GU4021 & PHYS GU4022  
QUANTUM MECHANICS I and QUANTUM MECHANICS II

OR

PHYS BC3006 & PHYS GU4023  
QUANTUM PHYSICS and THERMAL # STATISTICAL PHYSICS

Two of the following:

ASTR UN1403 EARTH, MOON, AND PLANETS

ASTR UN1404 STARS, GALAXIES # COSMOLOGY

ASTR UN1420 Galaxies and Cosmology

ASTR UN1836 STARS AND ATOMS

Or the following ASTR sequence:

ASTR UN2001 INTRO TO ASTROPHYSICS I

ASTR UN2002 INTRO TO ASTROPHYSICS II

**DEES Courses**

6 points minimum (two courses):

One of the following:

EESC UN2200 EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH

EESC UN3201 SOLID EARTH DYNAMICS

Plus one of the following:

EESC UN2100 EARTH'S ENVIRO SYST: CLIM SYST

EESC UN3101 Geochemistry for a Habitable Planet

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Astronomy

An extra 3 points of physics can substitute for 3 points of astronomy, as long as the course submitted is at the equivalent or higher level. The concentration requirements are as follows:

**Mathematics**

9 points of mathematics

**Astronomy**

15 points of astronomy, nine of which must be at or above the 2000-level

**Physics**

9 points of physics

## Joint Minor -- Earth and Space

Note that the information on this page is identical to the information on the corresponding page for the Department of Earth and Environmental Sciences.

The minor in Earth and Space requires a minimum of 15 points, distributed as follows:

**Introductory Course**

3 points minimum (one course):

One of the following:

ASTR UN1453 ANOTHER EARTH

ASTR BC1753 LIFE IN THE UNIVERSE

EESC UN2300 EARTH'S ENVIRO SYST: LIFE SYST

**Astronomy Courses**

6 points minimum (two courses):

## BIOCHEMISTRY

### THE CHEMISTRY DEPARTMENT

Department website: <https://www.chem.columbia.edu/>

Office location: 340 Havemeyer Hall

Office contact: 212-854-6177

Interim Director of Undergraduate Studies: Dr. Vesna Gasperov, 319 Uris; 212-854-2017; [vg2231@columbia.edu](mailto:vg2231@columbia.edu)

## THE STUDY OF CHEMISTRY

Chemistry, the study of molecules, is a central science interesting for its own sake but also necessary as an intellectual link to the other sciences of biology, physics, and environmental science. Faculty find the various disciplines of chemistry fascinating because they establish intellectual bridges between the macroscopic or human-scale world that we see, smell, and touch, and the microscopic world that affects every aspect of our lives. The study of chemistry begins on the microscopic scale and extends to engage a variety of different macroscopic contexts.

Chemistry is currently making its largest impact on society at the nexus between chemistry and biology and the nexus between chemistry and engineering, particularly where new materials are being developed. A typical chemistry laboratory now has more computers than test tubes and no longer smells of rotten eggs.

The chemistry department majors are designed to help students focus on these new developments and to understand the factors influencing the nature of the discipline. Because the science is constantly changing, courses change as well, and while organic and physical chemistry remain the bedrock courses, they too differ greatly from the same courses 40 years ago. Many consider biochemistry to be a foundation course as well. Although different paths within the chemistry major take different trajectories, there is a core that provides the essential foundation students need regardless of the path they choose. Students should consider majoring in chemistry if they share or can develop a fascination with the explanatory power that comes with an advanced understanding of the nature and influence of the microscopic world of molecules.

Students who choose to major in chemistry may elect to continue graduate study in this field and obtain a Ph.D. which is a solid basis for a career in research, either in the industry or in a university. A major in chemistry also provides students with an astonishing range of career choices such as working in the chemical or pharmaceutical industries or in many other businesses where a technical background is highly desirable. Other options include becoming a financial analyst for a technical company, a science writer, a high school chemistry teacher, a patent attorney, an environmental consultant, or a hospital laboratory manager, among others. The choices are both numerous and various as well as intellectually exciting and personally fulfilling.

## STUDENT ADVISING

### Consulting Advisers

Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu))

### Enrolling in Classes

Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu))

## Preparing for Graduate Study

Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu))

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The department grants advanced placement (AP) credit for a score of 4 or 5 or the equivalent. The amount of credit granted is based on the results of the department assessment exam and completion of the requisite course. Students who register for CHEM UN1604 (2ND TERM GEN CHEM, INTENSIVE) are granted 3 points of credit; students who register for CHEM UN2045 (INTENSIVE ORGANIC CHEMISTRY I-CHEM UN2046 INTENSIVE ORGANIC CHEM II) are granted 6 points of credit. In either case, credit is granted only upon completion of the course with a grade of C or better. Students must complete a department assessment exam prior to registering for either of these courses.

### Transfer Courses

Students who are transferring to Columbia should contact Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) to have any chemistry courses assessed for equivalency. Please email a detailed syllabus and transcript.

### Study Abroad Courses

Chemistry department majors who are planning to study abroad should contact Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) if they wish to study any chemistry abroad.

## UNDERGRADUATE RESEARCH

### Undergraduate Research in Courses

Students can get academic credit for undergraduate research by registering for CHEM UN3098 Supervised Independent Research. Generally, students register for 4 credits as this will fulfill one of the requirements of the Chemistry major. You will be expected to commit the same number of hours to research as you would for any other 4 credit class, around 12-16 hours per week throughout the entire semester. You need to obtain permission from your faculty sponsor and Dr. Gasperov to register for UN3098. At the end of the semester, you will be required to present a poster of your research results at a poster session for all UN3098 students.

### Undergraduate Research Outside of Courses

Students often ask, why should I do research? Research is exciting! You will design experiments, discover phenomena and make new molecules that no one has ever seen before. Furthermore, there are several practical reasons why you should consider research as an undergraduate student.

Research is a great way to learn more about chemistry. The concepts you learn in the classroom will come to light when you do research. You will also learn more about instrumentation, data analysis, and gain experience in writing reports, preparing posters, and discussing science with your research group members.

Research is a great career builder! Whether you are considering graduate school, professional school, or joining the workforce after graduation, research as an undergraduate will be an invaluable experience that will sharpen your critical thinking and provide you with the unique opportunity to work alongside world-leading faculty, graduate students and post-doctoral fellows.

The faculty in the Department of Chemistry carry out fundamental and applied research at both the core and frontiers of this scientific discipline. There are many opportunities for research during the academic year and in the summer with faculty in the department.

If you are interested in working in a research laboratory, you should take the following steps:

Investigate faculty research projects by using the department's website,

<http://chem.columbia.edu/research/>, or by speaking directly with faculty members.

Decide which faculty research project interests you.

Contact that faculty member directly to inquire about research opportunities within his/her laboratory.

The Program Manager for Undergraduate Studies, Dr. Vesna Gasperov, can assist you with this process.

Qualified students can take the First Year Seminar in Chemical Research course (CHEM UN2408) during the Spring semester in which you will have the opportunity to learn about research conducted within the chemistry department and other science departments in the university. This can help to identify areas of interest that you may not have considered.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Departmental honors are awarded to 10 percent of the graduating majors each year.

To be considered for department honors, students must have a grade point average of at least 3.6 in major courses and have participated in research on a project of high quality.

Biochemistry majors may be considered for Honors in either Chemistry or Biological Sciences.

## Academic Prizes

### THE THOMAS J. KATZ PRIZE

Established in 2009 by friends and colleagues of Professor Katz, this prize may be awarded to the Columbia College, General Studies, or SEAS student majoring in the chemical sciences who is deemed by the faculty to have demonstrated outstanding achievement as a scholar and as a researcher.

### THE RICHARD BERSOHN PRIZE

Established in 2009 by Professor Louis Brus, who was a student of Professor Bersohn, this prize may be awarded to the Columbia College, General Studies, or SEAS student majoring in the chemical sciences who is deemed by the faculty to have demonstrated outstanding achievement as a scholar and as a researcher.

## OTHER IMPORTANT INFORMATION

### Track Information

In the first year, Track 1 students with one year of high school chemistry take a one-year course in general chemistry, and the one-term laboratory course that accompanies it. In the second year, students study organic chemistry, and take organic chemistry laboratory.

Students who qualify by prior assessment during orientation week can place into the advanced tracks. There are two options. Track 2 students take, in the fall term, a special one-term intensive course in general chemistry in place of the one-year course. In the second year, students study organic chemistry and take organic chemistry laboratory. Track 3 students take a one-term intensive general chemistry laboratory course in the fall followed by a one-year course in organic chemistry for first-year students. The organic chemistry lecture sequence is taken spring-fall. In the second year, students may enroll in physical chemistry and the organic chemistry laboratory course.

Additional information on the tracks can be found in the *Requirements* section.

### Additional Courses

First-year students may also elect to take CHEM UN2408. This seminar focuses on topics in modern chemistry, and is offered to all students who have taken at least one semester of college chemistry and have an interest in chemical research.

Biochemistry (BIOC GU4501, BIOC GU4512) is recommended for students interested in the biomedical sciences.

Physical chemistry (CHEM UN3079-CHEM UN3080), a one-year program, requires prior preparation in



mathematics and physics. The accompanying laboratory is CHEM UN3085-CHEM UN3086.

Also offered are a senior seminar (CHEM UN3920); advanced courses in biochemistry, inorganic, organic, and physical chemistry; and an introduction to research (CHEM UN3098).

## Sample Programs

Some *typical* programs are shown below. Programs are crafted by the student and the Director of Undergraduate Studies and Program Manager to meet individual needs and interests.

### Track 1

#### First Year

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
CHEM UN1500	GENERAL CHEMISTRY LABORATORY
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES

Calculus and physics as required.

#### Second Year

CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

Calculus and physics as required.

#### Third Year

CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
BIOC GU4501	BIOCHEM I-STRUCTURE/METABOLISM
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB
CHEM UN3098	SUPERVISED INDEPENDENT RES

#### Fourth Year

CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3920	SENIOR SEMINAR

CHEM GU4071 INORGANIC CHEMISTRY  
Advanced courses (4000-level or higher)

### Track 2

#### First Year

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES

Calculus and physics as required.

#### Second Year

CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

Calculus and physics as required.

#### Third Year

CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
BIOC GU4501	BIOCHEM I-STRUCTURE/METABOLISM
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB
CHEM UN3098	SUPERVISED INDEPENDENT RES

#### Fourth Year

CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3920	SENIOR SEMINAR
CHEM GU4071	INORGANIC CHEMISTRY

Advanced courses (4000- level or higher)

### Track 3

#### First Year

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES



Calculus and Physics as required.

### Second Year

CHEM UN2046 INTENSIVE ORG CHEM-FOR 1ST YEAR

CHEM UN3079 PHYSICAL CHEMISTRY I-LECTURES

CHEM UN3080 PHYSICAL CHEMISTRY II-LECTURES

CHEM UN2545 INTENSIVE ORGANIC CHEM LAB

CHEM UN3546 ADVANCED ORGANIC CHEMISTRY LAB

Calculus and physics as required.

### Third Year

BIOC GU4501 BIOCHEM I-STRUCTURE/METABOLISM

CHEM UN3085 PHYSICL-ANALYTICL LABORATORY I

CHEM UN3086 PHYSICL-ANALYTCL LABORATORY II

CHEM UN3098 SUPERVISED INDEPENDENT RES

CHEM GU4071 INORGANIC CHEMISTRY

### Fourth Year

CHEM UN3920 SENIOR SEMINAR

Advanced courses (4000-level or higher)

## PROFESSORS

Luis Campos  
Virginia W. Cornish  
Richard A. Friesner  
Ruben Gonzalez  
Laura Kaufman  
James L. Leighton  
Ann E. McDermott  
Wei Min  
Jack R. Norton  
Colin Nuckolls  
Gerard Parkin  
David R. Reichman  
Tomislav Rovis  
Dalibor Sames  
Brent Stockwell  
James J. Valentini  
Latha Venkataraman  
Xiaoyang Zhu

## ASSOCIATE PROFESSORS

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Angelo Cacciuto  
Jonathan Owen

Xavier Roy

## ASSISTANT PROFESSORS

Milan Delor  
Neel Shah  
Makeda Tekle-Smith

## SENIOR LECTURERS

Luis Avila  
Anna Ghurbanyan  
Sarah Hansen  
Fay Ng  
Joseph Ulichny

## LECTURERS

Robert Beer  
John Decatur  
Charles E. Doubleday  
Christopher Eckdahl  
Ruben Savizky  
Talha Siddiqui

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

The Department of Chemistry offers four distinct academic major programs for undergraduates interested in professional-level training and education in the chemical sciences: chemistry, chemical physics, biochemistry and environmental chemistry. For students interested in a program of less extensive study and coursework, the department offers a concentration in chemistry.

In the first year, Track 1 students with one year of high school chemistry take a one-year course in general chemistry, and the one-term laboratory course that accompanies it. In the second year, students study organic chemistry, and take organic chemistry laboratory.

Students who qualify by prior assessment during orientation week can place into the advanced tracks. There are two options. Track 2 students take, in the fall term, a special one-term intensive course in general chemistry in place of the one-year course. In the second year, students study organic chemistry and take organic chemistry laboratory. Track 3 students take a one-year course in organic chemistry for first-year students and the one-term intensive general chemistry laboratory course. In the second year, students may enroll in physical chemistry and the organic chemistry laboratory course.

The results of the department assessment exam are used to advise students which track to pursue. The Department of Chemistry offers three different tracks. Students who wish to take Track 2 or 3 classes must take the department assessment exam. Students who wish to pursue Track 1 classes do not need to take the assessment exam.

Additional information on the tracks can be found in the Requirements section.

## Guidance for Transfer Students

Students who are transferring to Columbia should contact Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) to have any chemistry courses assessed for equivalency. Please email a detailed syllabus and transcript.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

Students majoring in chemistry or in one of the interdepartmental majors in chemistry should go to the director of undergraduate studies or the undergraduate program manager in the Department of Chemistry to discuss their program of study. Chemistry majors and interdepartmental majors usually postpone part of the Core Curriculum beyond the sophomore year.

#### Chemistry Tracks

All students who wish to start with Track 2 or 3 courses must take an assessment during orientation week ahead of fall semester. The results of the assessment are used to advise students which track to pursue. Unless otherwise specified below, all students must complete one of the following tracks:

#### Track 1

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
CHEM UN1500	GENERAL CHEMISTRY LABORATORY
CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

#### Track 2

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
or CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

#### Track 3

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR
CHEM UN2545	INTENSIVE ORGANIC CHEM LAB

#### Physics Sequences

Unless otherwise specified below, all students must complete one of the following sequences:

#### Sequence A

For students with limited background in high school physics:

PHYS UN1401	INTRO TO MECHANICS # THERMO
PHYS UN1402	INTRO ELEC/MAGNETISM # OPTCS
PHYS UN1403	INTRO-CLASSCL # QUANTUM WAVES

For chemistry majors, the following laboratory courses are recommended, NOT required. For chemical physics majors, ONE of the following laboratory courses are required:

PHYS UN1494	INTRO TO EXPERIMENTAL PHYS-LAB
PHYS UN3081	INTERMEDIATE LABORATORY WORK

#### Sequence B

PHYS UN1601	PHYSICS I:MECHANICS/RELATIVITY
PHYS UN1602	PHYSICS II: THERMO, ELEC # MAG
PHYS UN2601	PHYSICS III:CLASS/QUANTUM WAVE

For chemistry majors, the following laboratory course is recommended NOT required. For chemical physics majors, the following laboratory course is required:

PHYS UN3081 INTERMEDIATE  
LABORATORY WORK

## Sequence C

For students with advanced preparation in physics and mathematics:

PHYS UN2801 ACCELERATED PHYSICS I  
& PHYS UN2802 and ACCELERATED  
PHYSICS II

For chemistry majors, the following laboratory course is recommended NOT required. For chemical physics majors, the following laboratory course is required:

PHYS UN3081 INTERMEDIATE  
LABORATORY WORK

## Major in Chemistry

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM UN2408 1ST YEAR SEM IN  
CHEMICAL RES  
(Recommended NOT required)

CHEM UN3079 PHYSICAL CHEMISTRY I-  
LECTURES

CHEM UN3080 PHYSICAL CHEMISTRY II-  
LECTURES

CHEM UN3085 PHYSICL-ANALYTICL  
LABORATORY I

CHEM UN3086 PHYSICL-ANALYTCL  
LABORATORY II

CHEM UN3546 ADVANCED ORGANIC  
CHEMISTRY LAB

CHEM UN3920 SENIOR SEMINAR

CHEM GU4071 INORGANIC CHEMISTRY

Select one course from the following:

CHEM UN3098 SUPERVISED INDEPENDENT  
RES

OR Chemistry courses numbered CHEM GU4000 or  
above for 2 credit points or more

### Physics

Select one of the physics sequences outlined above in the  
Guidelines section.

### Mathematics

Select one of the following sequences:

Four semesters of calculus:

MATH UN1101 CALCULUS I  
& MATH UN1102 and CALCULUS II  
& MATH UN1201 and CALCULUS III  
& MATH UN1202 and CALCULUS IV

Two semesters of honors mathematics:

MATH UN1207 HONORS MATHEMATICS A  
& MATH UN1208 and HONORS  
MATHEMATICS B

## Major in Biochemistry

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM UN2408 1ST YEAR SEM IN  
CHEMICAL RES  
(Recommended NOT required)

CHEM UN3079 PHYSICAL CHEMISTRY I-  
LECTURES

CHEM UN3080 PHYSICAL CHEMISTRY II-  
LECTURES

### Biology

BIOL UN1908 First Year Seminar in Biology  
(Recommended NOT required)

BIOL UN2005 INTRO BIO I:  
BIOCHEM,GEN,MOLEC

BIOL UN2006 INTRO BIO II:CELL BIO,DEV/  
PHYS

BIOC GU4501 BIOCHEM I-STRUCTURE/  
METABOLISM

or BIOC UN3300 BIOCHEMISTRY

BIOC GU4512 MOLECULAR BIOLOGY

### Physics

Select one of the following physics sequences:

Sequence A:

PHYS UN1201 GENERAL PHYSICS I  
& PHYS UN1202 and GENERAL PHYSICS II

Sequence B:

PHYS UN1401 INTRO TO MECHANICS #  
& PHYS UN1402 THERMO  
& PHYS UN1403 and INTRO ELEC/  
MAGNETISM # OPTCS  
and INTRO-CLASSCL  
# QUANTUM WAVES  
(PHYS UN1403 is recommended  
NOT required)

Sequence C:

PHYS UN1601  
& PHYS UN1602  
& PHYS UN2601

PHYSICS I:MECHANICS/  
RELATIVITY  
and PHYSICS II: THERMO,  
ELEC # MAG  
and PHYSICS III:CLASS/  
QUANTUM WAVE  
(PHYS UN2601 is recommended  
but not required)

Sequence D:

PHYS UN2801  
& PHYS UN2802

ACCELERATED PHYSICS I  
and ACCELERATED  
PHYSICS II

**Mathematics**

Select one of the following sequences:

Two semesters of calculus:

MATH UN1101  
& MATH UN1102  
& MATH UN1201  
& MATH UN1202

CALCULUS I  
and CALCULUS II  
and CALCULUS III  
and CALCULUS IV

Two semesters of honors mathematics:

MATH UN1207  
& MATH UN1208

HONORS MATHEMATICS A  
and HONORS  
MATHEMATICS B

AP credit and one term of calculus (Calculus II or  
higher)

**Additional Courses**

Select two of the following upper level laboratory courses  
(one must be a Biology lab):

BIOL UN2501  
& BIOL UN3040

CONTEMPORARY BIOLOGY  
LAB  
and LAB IN MOLECULAR  
BIOLOGY (A 3 pt. Barnard lab  
course, with permission from Bio  
advisor)

BIOL UN3052

PROJECT LAB-MOLECULAR  
GENETICS

BIOL UN3058

PROJECT LAB IN  
MICROBIOLOGY

BIOL UN3500

INDEP BIOLOGICAL  
RESEARCH

CHEM UN3085

PHYSICL-ANALYTICL  
LABORATORY I

CHEM UN3086

PHYSICL-ANALYTCL  
LABORATORY II

CHEM UN3098

SUPERVISED INDEPENDENT  
RES

CHEM UN3546

ADVANCED ORGANIC  
CHEMISTRY LAB

Select any three courses from the following:

CHEM GU4071  
CHEM GU4102

INORGANIC CHEMISTRY  
CHEMISTRY FOR THE  
BRAIN

CHEM GU4103

ORGANOMETALLIC  
CHEMISTRY

CHEM GU4147

ADVANCED ORGANIC  
CHEMISTRY I

CHEM GU4312

CHEMICAL BIOLOGY

CHEM GU4313

Peptide and Protein Chemistry

BIOC GU4323

Biophysical Chemistry I

BIOC GU4324

Biophysical Chemistry II

MATH UN3027  
or MATH UN2030

Ordinary Differential Equations  
ORDINARY DIFFERENTIAL  
EQUATIONS

One additional semester of calculus

One additional semester of honors math:

MATH UN1207  
or MATH UN1208

HONORS MATHEMATICS A  
HONORS MATHEMATICS B

Any biology course at the 3000/4000 level for 3 or  
more points. The following are recommended:

BIOL UN3004

NEUROBIO I:CELLULAR #  
MOLECU

or BIOL UN3005

NEUROBIO II: DEVPT # SYSTEMS

BIOL UN3008

The Cellular Physiology of  
Disease

BIOL UN3022

DEVELOPMENTAL BIOLOGY

BIOL UN3034

Biotechnology

BIOL UN3041

CELL BIOLOGY

BIOL UN3073

CELLULAR/MOLECULAR  
IMMUNOLOGY

BIOL GU4065

Molecular Biology of Disease

BIOL GU4300

DRUGS AND DISEASE

## Major in Chemical Physics

Select one of the tracks outlined above in *Guidelines for all  
Chemistry Majors, Concentrators, and Interdepartmental  
Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM UN3079

PHYSICAL CHEMISTRY I-  
LECTURES

CHEM UN3080

PHYSICAL CHEMISTRY II-  
LECTURES

CHEM UN3085

PHYSICL-ANALYTICL  
LABORATORY I

CHEM UN3086

PHYSICL-ANALYTCL  
LABORATORY II

CHEM UN3920

SENIOR SEMINAR

CHEM GU4221  
or PHYS GU4021

QUANTUM CHEMISTRY I  
QUANTUM MECHANICS I

### Physics

Select one of the physics sequences outlined above in  
*Guidelines for all Chemistry Majors, Concentrators and  
Interdepartmental Majors*. For the chemical physics major,  
one lab **MUST** be completed for the sequence chosen.

Complete the following lectures:

PHYS UN3003

MECHANICS

PHYS UN3007

ELECTRICITY-MAGNETISM

PHYS UN3008

ELECTROMAGNETIC  
WAVES # OPTICS

**Mathematics**

Select one of the following sequences:

Four semesters of calculus:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV
--	--

Two semesters of honors mathematics:

MATH UN1207 & MATH UN1208 & MATH UN3027	HONORS MATHEMATICS A and HONORS MATHEMATICS B and Ordinary Differential Equations
---	---

Two semesters of advanced calculus:

MATH UN1202 & MATH UN3027	CALCULUS IV and Ordinary Differential Equations
------------------------------	---

**Major in Environmental Chemistry**

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

**Chemistry**

Select one of the chemistry tracks outlined above.

A second semester of Organic Chemistry lecture is recommended NOT required.

CHEM UN3079	PHYSICAL CHEMISTRY I- LECTURES
-------------	-----------------------------------

CHEM GU4071	INORGANIC CHEMISTRY
-------------	---------------------

The following courses are recommended NOT required:

CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES
-------------	---------------------------------

CHEM UN3920	SENIOR SEMINAR
-------------	----------------

**Earth and Environmental Science**

Select two of the following three courses:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
-------------	-----------------------------------

EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
-------------	--

EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
-------------	-----------------------------------

Additional course required:

EESC UN3101	Geochemistry for a Habitable Planet
-------------	--

Select one of the following labs:

EESC BC3016	ENVIRONMENTAL MEASUREMENTS
-------------	-------------------------------

CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
-------------	-----------------------------------

Select one option for Independent Research in  
Environmental Chemistry:

EESC BC3800 & EESC BC3801
------------------------------

ENVR SCIENCE SENIOR SEMINAR and ENVR SCIENCE SENIOR SEM II
---

CHEM UN3098	SUPERVISED INDEPENDENT RES (It is strongly recommended to take CHEM UN3920 if taking CHEM UN3098)
-------------	--

**Physics**

Select one of the following physics sequences:

Sequence A:

PHYS UN1201 & PHYS UN1202	GENERAL PHYSICS I and GENERAL PHYSICS II
------------------------------	---

Sequence B:

PHYS UN1401 & PHYS UN1402 & PHYS UN1403	INTRO TO MECHANICS # THERMO and INTRO ELEC/ MAGNETISM # OPTCS and INTRO-CLASSCL # QUANTUM WAVES (Recommended NOT required)
---	--

Sequence C:

PHYS UN1601 & PHYS UN1602 & PHYS UN2601	PHYSICS I:MECHANICS/ RELATIVITY and PHYSICS II: THERMO, ELEC # MAG and PHYSICS III:CLASS/ QUANTUM WAVE (Recommended, not required)
---	--

Sequence D:

PHYS UN2801 & PHYS UN2802	ACCELERATED PHYSICS I and ACCELERATED PHYSICS II
------------------------------	--

**Mathematics**

Two semesters of calculus:

MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II
MATH UN1201	CALCULUS III
MATH UN1202	CALCULUS IV

**Additional Courses**

Select any two of the following:

**Chemistry:**

CHEM UN3080	PHYSICAL CHEMISTRY II- LECTURES
-------------	------------------------------------

CHEM GU4103	ORGANOMETALLIC CHEMISTRY
-------------	-----------------------------

CHEM GU4147	ADVANCED ORGANIC CHEMISTRY I
-------------	---------------------------------

**Earth and Environmental Science:**

EESC BC3017	ENVIRONMENTAL DATA ANALYSIS
-------------	--------------------------------

EESC BC3025	HYDROLOGY
-------------	-----------

EESC GU4008	Introduction to Atmospheric Science
-------------	--

EESC GU4009	CHEMICAL GEOLOGY
-------------	------------------



EESC GU4040	CLIM THERMODYN/ENERGY TRANSFER
EESC GU4050	GLOBAL ASSMT-REMOTE SENSING
EESC GU4600	EARTH RESOURCES # SUSTAIN DEV
EESC GU4835	Wetlands and Climate Change
EESC GU4885	CHEMISTRY OF CONTINENTL WATERS
EESC GU4888	Stable Isotope Geochemistry
EESC GU4924	INTRO TO ATMOSPHERIC CHEMISTRY
EESC GU4925	INTRO TO PHYSICAL OCEANOGRAPHY
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY
<b>Earth and Environmental Engineering:</b>	
EAEE E4001	INDUST ECOLOGY-EARTH RESOURCES
EAEE E4003	AQUATIC CHEMISTRY
<b>Mathematics:</b>	
One additional semester of calculus	

## Minor in Chemistry

Students should select one of the following tracks:

### Track 1

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
CHEM UN1500	GENERAL CHEMISTRY LABORATORY
CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES

### Track 2

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
or CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES

### Track 3

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY

CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR
-------------	--------------------------------

Select an additional two classes from the following options:

CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
CHEM GU4071	INORGANIC CHEMISTRY
BIOC GU4501	BIOCHEM I-STRUCTURE/METABOLISM

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Chemistry

No more than four points of CHEM UN3098 SUPERVISED INDEPENDENT RES may be counted toward the concentration.

Select one of the three chemistry tracks listed below.

PHYS UN1201 & PHYS UN1202	GENERAL PHYSICS I and GENERAL PHYSICS II
---------------------------	--

Two semesters of calculus

### Chemistry Tracks

#### Track 1

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
CHEM UN1500	GENERAL CHEMISTRY LABORATORY

Select 22 points of chemistry at the 2000-level or higher (excluding CHEM UN2408).

#### Track 2

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
or CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)

Select 22 points of chemistry at the 2000-level or higher (excluding CHEM UN2408).

#### Track 3

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
-------------	--------------------------------

CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR

Select 18 points of chemistry at the 2000-level or higher (excluding CHEM UN2408).

## BIOLOGICAL SCIENCES

### THE DEPARTMENT OF BIOLOGICAL SCIENCES:

Department website: <http://www.biology.columbia.edu>  
 Office location: 600 Sherman Fairchild Center  
 Office contact: 212-854-4581, [biology@columbia.edu](mailto:biology@columbia.edu)  
 Director of Undergraduate Studies: Alice Heicklen, [ah2289@columbia.edu](mailto:ah2289@columbia.edu)  
 Undergraduate Administrator: Ellie Siddens, [mes2314@columbia.edu](mailto:mes2314@columbia.edu)

### THE STUDY OF BIOLOGICAL SCIENCES

The department offers broad training in basic biological disciplines, with an emphasis in cell and molecular biology. Students have many opportunities to participate in ongoing projects in research laboratories. All the biology-related majors require one year of introductory biology, plus additional courses as detailed in the major requirements and listed on the websites provided above.

The usual one-year introductory biology sequence is [BIOL UN2005 INTRO BIO I: BIOCHEM,GEN,MOLEC-BIOL UN2006 INTRO BIO II:CELL BIO,DEV/PHYS](#), taken in the sophomore year, after one year of general chemistry. For more details, see Introductory Courses under [Requirements —Major in Biology](#). All students interested in biology are encouraged to take [BIOL UN1908 First Year Seminar in Biology](#) in the fall semester of their first year.

#### Online Resources:

- [FAQs for first-year students, prospective & current majors, and transfer students](#)
- [Checklist of major requirements](#)
- [Additional course information](#)
- [Undergraduate research & job opportunities](#)

## STUDENT ADVISING

### Consulting Advisers

Peer Mentors - Login to Lionmail to access this Google sheet. Any current or prospective student may contact a peer mentor with questions about classes, professors, research experience, or anything related to your current or prospective bio-related major.

Before contacting an advisor, check whether your question has been answered in our undergraduate [FAQs](#).

For a list of current biology, biochemistry, biophysics, and neuroscience and behavior advisers, please visit <http://biology.columbia.edu/content/advisors>

### Biology Major (CC) and Minor Advisers (CC & GS):

For students with last names beginning with:

- A-N: Dr. Mary Ann Price; [map2293@columbia.edu](mailto:map2293@columbia.edu)
- O-Z: Dr. Michelle Attner; [ma3325@columbia.edu](mailto:ma3325@columbia.edu)

### Biology Major Adviser (GS):

Dr. Deborah Mowshowitz; [dbm2@columbia.edu](mailto:dbm2@columbia.edu)

### Biochemistry Advisers (CC & GS):

Chemistry: Dr. Vesna Gasperov; [vg2231@columbia.edu](mailto:vg2231@columbia.edu)

Biology: Dr. Ava Brent; [aeb28@columbia.edu](mailto:aeb28@columbia.edu)

### Biophysics Adviser (CC & GS):

Dr. Josh Abrams; [jma2278@columbia.edu](mailto:jma2278@columbia.edu)

### Computational Biology Advisor (CC & GS):

Biology: For students with last names beginning with:

- A-N: Dr. Harmen Bussemaker; [hjb2004@columbia.edu](mailto:hjb2004@columbia.edu)
- O-Z: Dr. Simon Tavaré; [st3193@columbia.edu](mailto:st3193@columbia.edu)

Computer Science: For students with last names beginning with:

- A-N: Dr. Itsik Pe'er; [ip2169@columbia.edu](mailto:ip2169@columbia.edu)
- O-Z: Dr. David Knowles; [dak2173@columbia.edu](mailto:dak2173@columbia.edu)

### Neuroscience and Behavior Advisers (CC):

Biology: Dr. Erin Barnhart, [eb3305@columbia.edu](mailto:eb3305@columbia.edu)

Psychology: Dr. Alfredo Spagna; [as5559@columbia.edu](mailto:as5559@columbia.edu)

### Neuroscience and Behavior Advisers (GS):

Biology: Dr. Deborah Mowshowitz; [dbm2@columbia.edu](mailto:dbm2@columbia.edu)

Psychology: Dr. Alfredo Spagna, [as5559@columbia.edu](mailto:as5559@columbia.edu)

## Enrolling in Classes

Registration for each term occurs within designated periods. Within these periods, you will be assigned

specific registration appointment times. For continuing students, your appointment times will generally be available on [Student Services Online](#) (SSOL) two weeks prior to the registration period, but specific registration instructions are announced by each school in advance of each registration period.

- [Check appointment times](#)
- [Register](#)

Students can also check the [Directory of Classes](#) by looking for “B” under Departments and selecting “Biological Sciences”.

## Preparing for Graduate Study

Advisor for students applying to graduate school or looking for bio-related jobs. (Students applying to medical school should consult the pre-professional office.)

Dr. Molly Przeworski; [mp3284@columbia.edu](mailto:mp3284@columbia.edu)

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

If you got a 5 on the AP biology test, you get 3 points of credit toward graduation. Students with a 5 on the AP should take [BIOL UN2005](#) INTRO BIO I: BIOCHEM, GEN, MOLEC and [BIOL UN2006](#) INTRO BIO II: CELL BIO, DEV/PHYS.

BIOL UN2005-UN2006 is not a repeat of AP bio. It demands not only more detail but more thought and application of knowledge to problem-solving than the usual AP course. It is narrower but deeper than the usual introductory biology course. You may review [this exam](#) from a previous year of UN2005 and compare your answers with [the exam key](#). This will give you an idea of what makes UN2005/6 a unique Intro Bio sequence. If you still feel that you are sufficiently prepared, please consult a [biology advisor](#) who on rare occasions can give permission to place out of Intro Bio I and II. You will still be required to take 6 biology courses at Columbia if you place out of Intro Bio.

### Barnard College Courses

Barnard courses may not be substituted for the required Columbia courses without advance permission from the advisor. Students may not use Barnard courses for the biology minor.

### Transfer Courses

Transfer credits for the majors, concentrators, and the biology minor are not automatically granted. Students should email their [Biology advisor](#) with a transcript and the syllabi from their previous institution to request

transfer credit. Transfer credit for Introductory Biology is rarely granted. You can read more about transfer credits in this [FAQ](#). Students may not use transfer courses for the biology minor.

## Study Abroad Courses

If you are planning to study abroad, please meet with your [Advisor](#) before you go. You'll need prior approval for any majors, concentrators, and biology minor courses that you take abroad. Students may not use study abroad courses for the biology minor.

## Summer Courses

The Department of Biological Sciences offers limited summer courses. Check the [Directory of Classes](#) for Summer course information.

## CORE CURRICULUM CONNECTIONS

Unfortunately, most biology courses are not suitable for most nonscience majors. There are two biology courses in the dept that are designed primarily for nonscientists: Science and Society (BIOL UN1360), and Interpreting Scientific Evidence (BIOL UN2300).

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

#### SURF

First-year students, sophomores, and juniors are eligible for the department's paid internship program (SURF). This program is competitive; the department cannot assure every eligible student a place in any given summer.

A faculty committee headed by Dr. Alice Heicklen then matches selected students to appropriate labs. The deadline for SURF applications is at the beginning of the spring semester.

SURF students must submit a report on their work at the end of the summer session and participate in the following year's annual Undergraduate Research Symposium. Although it does not carry any academic credit, SURF can be used toward the lab requirement for majors and toward graduation with honors. Current detailed descriptions of the SURF program and the application procedure are available at SURF's website, <https://biology.columbia.edu/content/surf>. For more information on the Amgen Scholarship Program, please visit <https://biology.columbia.edu/content/amgen-scholars-program>. Applications to all of these programs are through SURF.

UN3500

Students can get academic credit for working in a lab, by registering for BIOL UN3500 Independent Research. This is not to be confused with SURF or the Amgen Scholars Program, which fulfill the biology major lab requirement but does not confer academic credit. Generally students register for 3 or 4 credits. A general rule is 4 hours lab time/week/credit, i.e. register for 3 credits for 12 hours of lab time/week and 4 credits from 16 hours of lab time/week. You will need to find a lab to work in. Please make it clear to the head of the lab whether you need to work 12 or 16 hours/week. If you are taking this class for a lab requirement, you need to take it for a letter grade. You will be required to write a research paper at the end of the semester. (See [UN3500](#) requirements.)

While it's nice to be able to get credit for your lab experience, keep in mind that this means that you're making a commitment to work there for the entire semester.

Senior Thesis Coursework and Requirements

The biology-related majors in the Department of Biological Sciences do not include a Senior Thesis.

Undergraduate Research Outside of Courses

Please see the [Undergraduate Research](#) page on the department website for advice and information on undergraduate research.

DEPARTMENT HONORS AND PRIZES

Department Honors

Students must apply for departmental honors. Applications are due no later than one day before spring break of their senior year. For details, please visit the departmental website at <https://biology.columbia.edu/content/honors-biological-sciences>.

Academic Prizes

Bridges and Sturtevant Prize

This prize results from an anonymous donation in 2011 establishing an endowment for the prize. Bridges and Sturtevant were certainly amazing Columbia undergrads who were true pioneers of modern genetics. Alfred Sturtevant is recounted to have taken time off from studying for classes one weekend to work on understanding some crosses. The result was his figuring out that genes were arranged in a row on a chromosome.

The prize description reads: "Columbia shall .... award an annual prize to be known as the Bridges

and Sturtevant Prize in Biological Sciences in honor of Calvin Bridges and Alfred Sturtevant. Their pioneering studies as Columbia College undergraduates - using the fruit fly *Drosophila melanogaster* in Thomas Hunt Morgan's laboratory - laid the basis for our understanding of genes and the way they behave. Each year the prize will be awarded to one or more graduating seniors whose experimental or computational research is deemed to have been both highly original and fruitful by a committee of faculty to be selected by the Chair of Biological Sciences."

Faculty members in the Dept. of Biological Sciences can nominate student(s) for the prize. A committee of faculty members decide who will receive the award.

It is awarded yearly, just before graduation.

Awarded to a graduating senior whose research has been deemed highly original and fruitful.

Each student is awarded a monetary prize.

PROFESSORS

Peter Andolfatto
Harmen Bussemaker
Martin Chalfie
Stuart Firestein
Joachim Frank
Iva Greenwald
Oliver Hobert
John Hunt
Songtao Jia
Daniel Kalderon
Darcy Kelley
Laura Landweber
James Manley
Carol Prives
Ronald Prywes

Molly Przeworski

Ozgur Sahin

Brent Stockwell

Simon Tavare

Saeed Tavazoie

Liang Tong

Jian Yang

Rafael Yuste

## ASSOCIATE PROFESSORS

Lars Dietrich

Guy Sella

## ASSISTANT PROFESSORS

Ishmail Abdus-Saboor

Erin Barnhart  
Laura Duvall

Jellert Gaublomme

Marko Jovanovic

Raju Tomer  
Maria Tosches

## LECTURERS

Joshua Abrams

Michelle Attner

Ava Brent

Alice Heicklen

Mary Ann Price

Lili Yamasaki

## ADJUNCT FACULTY

Lewis Brown  
Ronald Guido

Nam Ho

Donald Kirsch

John Loike

Alan Morrison

Deborah Mowshowitz

Vincent Racaniello

David Sable

Christian Schindler

Harold Varmus

## Program Planning for all Students

Students majoring or minoring in Biology or Related Fields:

1. Review the requirements for your desired major/minor detailed in the links below. Please email Ellie Siddens (mes2314@columbia.edu) to go over the progress of your major completion.
2. Fill out a [major planning form](#) as far as you can, using the checklist and the information in [the bulletin](#). Include both courses you have completed AND courses you plan to take to complete your major.
3. Consult the appropriate [departmental adviser](#) to discuss any variances from the normal guidelines. Your adviser will then email any approved variances from the normal requirements to the biology departments administrator, Ellie Siddens, who will approve your major completion for graduation.
4. Visit the [Major Declaration Page](#) during the Major Declaration Period (usually Spring Break of your Sophomore year) to officially declare your major.

For students majoring in Biochemistry or Neuroscience & Behavior (joint majors), you should consult advisers in both departments to plan your program, each regarding their specific courses (e.g. biology course exceptions will need to be approved by a biology adviser, chemistry course exceptions will need to be approved by a chemistry adviser).

Returning students should check the departmental website for any last-minute changes and/or additional information.



See especially undergraduate updates and list of department courses. All major and minor requirements are detailed on the website and links provided below.

## Double Majoring/Minoring

The Department of Biological Sciences offers five undergraduate majors (Biology, Biophysics, Biochemistry, Computational Biology, and Neuroscience and Behavior), along with a Biology Minor, across two schools: Columbia College and General Studies. Students can only choose one major/minor within the Department. You may not major in Biology/ Biochemistry/ Biophysics/ Computational Biology/ Neuroscience & Behavior and have a Biology Minor.

You cannot major in:

- Biochemistry & also major / minor in chemistry
- Biophysics & also major / minor in physics
- Computational biology & also major / minor in computer science or major/minor in math
- Neuroscience & also major / minor in psychology

Students can only double count two of the following fundamental courses for both a biology-related major/minor and any other major / minor they pursue: General Chemistry I & II or Calc I & II.

Biochemistry (BIOL UN3300 or BIOL GU4501) cannot be counted for a biology-related major / minor and for any other major / minor.

## Course Numbering Structure

NOTE: Numbering does not reflect difficulty but rather whether UGs & graduate students have different requirements:

3000 – Only UGs register

4000 – UGs and graduate students perform the same

5000 – Only graduate students register, requires additional work beyond the 3000 course; 3000 (UGs) & 5000 (Grad.) are different versions of the same course, i.e. same time, location, and lectures

## Guidance for First-Year Students

Please see the [FAQs for First-Year Students](#).

## Guidance for Transfer Students

Please see the [FAQs for Transfer Students](#).

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

All majors and the minor should start with General Chemistry 1 & 2 in their first year at Columbia. This is a

required prerequisite before you may begin the Introductory Biology sequence.

All biology-related majors: at least 4 biology or biochemistry courses and at least 18 credits of the total (biology, biochemistry, math, physics, and chemistry) must be taken at Columbia. Barnard courses may not be substituted for the required Columbia courses without advance permission from the adviser. The two required core courses should be taken at Columbia. Courses covering the same topics as Bio dept core courses, but taken elsewhere, are counted as electives, not as core courses.

### Exceptions to Requirements

Students must get written permission in advance for any exceptions to the requirements listed below. For the exceptions to be applied toward graduation, the student must get the exception approved by the faculty adviser, who will then send an e-mail explaining the exceptions to [mes2314@columbia.edu](mailto:mes2314@columbia.edu).

### Grade Requirements for the Major

A grade of C- or higher must be earned and revealed on your transcript for any course – including the first – to be counted toward the major, minor, or concentration requirements. The grade of P is not acceptable. A course that was taken Pass/D/Fail may be counted if and only if the P is uncovered by the Registrar's deadline.

Please note that a few exceptions are applicable for the following terms:

- All courses in Spring 2020 were taken with mandatory Pass/Fail grades.
- Further exceptions are allowed for 2020-2021, when students can opt to take one course Pass/Fail during the Fall 2020, Spring 2021, and Fall 2021 semesters, without any restrictions - this can be in a course required for their major or minor.
- In Spring 2024, students could opt to take two major/minor courses Pass/Fail.

If you are concerned about a P grade counting for the major, please consult with your adviser.

### COURSES

#### Non-Major Courses

The following biology-related courses do not count towards the major or as one of the 4 courses that all biology majors must take at Columbia University. This list is not exhaustive, and you should discuss your major courses with your biology adviser.

- BIOL UN1004 Foundations of Biology
- BIOL UN1130 Genes and Development

- BIOL UN1360 Science and Society
- BIOL UN1908 First-year seminar in biology
- BIOL UN2300 Interpreting Scientific Evidence
- BIOL UN3920 Ignorance
- BIOL UN3995 Topics in Biology: Crossroads in Bioethics
- BIOL GU4305 Seminar in Biotechnology
- BIOL GU4506 Biochemistry in XR: Mixed Reality
- BIOT GU4160 Biotechnology Law
- BIOT GU4180 Entrepreneurship in Biotech
- BIOT GU4200 Biopharmaceutical Development & Regulation
- BIOT GU4201 Seminar in Biotech Development & Regulation
- BIOT GR5170 Intro to Management Principles
- CMLS UN3965 Precision Medicine: Biology
- Any course beginning with the HPSC, SCNC, or BIOT prefix
- All Barnard Courses

## Repeating Biology Courses

Introductory biology I & II (BIOL UN2005/6 & BIOL UN2401/2) may only be taken twice, this includes taking two exams, W, D and F. You may petition to take intro bio I or II a third time. 3000 & 4000 level biology courses may only be taken once. You may petition to take the same course a second time.

## Prerequisites

Course prerequisites are strictly enforced. Prerequisites must be taken before the course, not after or concurrently. Biology courses taken before the completion of any of its prerequisites, even with instructor approval, are not counted toward the major, minor, or interdepartmental majors. Exemptions from a prerequisite requirement may only be made, in writing, by the department's director of undergraduate studies. Credits from a course taken prior to the completion of its prerequisites are not counted towards the major requirements. As a consequence, students are required to complete additional, specific courses in biology at the direction of the director of undergraduate studies.

## 4+1 Programs

A B- or better in both introductory biology I & II (BIOL UN2005 & BIOL UN2006) are required to be eligible for any 4+1 programs.

## Major in Biology

### General Information

The requirements for the biology major include courses in biology, chemistry, physics, and mathematics.

The required biology courses are one year of introductory biology, two core courses in biology, two 3-point electives in biology, and an appropriate lab experience. See below for details.

The required courses outside the biology department are chemistry through organic (plus labs), one year of college-level physics (plus lab), and the completion of one year of college-level mathematics (usually calculus).

Alternative sequences to the above may be arranged in special circumstances, but only with the permission of a departmental adviser or the director of undergraduate studies obtained in advance. For example, selected courses at the Columbia-Presbyterian Medical Center are open to advanced undergraduates with adviser approval. Credit toward the major for courses not listed in the Columbia College Bulletin must be discussed in advance with a departmental adviser or the director of undergraduate studies. Students are responsible for notifying the department of all exceptions either in writing or by e-mail as explained above.

Students planning graduate work in biology should keep in mind that physical chemistry and statistics are important for many graduate programs.

### Introductory Courses

The usual one-year introductory biology sequence is BIOL UN2005 INTRO BIO I: BIOCHEM,GEN,MOLEC-BIOL UN2006 INTRO BIO II:CELL BIO,DEV/PHYS, taken in the sophomore year.

Other sequences require permission in advance from a departmental adviser or the director of undergraduate studies. Students with a strong background in chemistry or molecular biology may take BIOL UN2005 INTRO BIO I: BIOCHEM,GEN,MOLEC-BIOL UN2006 INTRO BIO II:CELL BIO,DEV/PHYS in their first year; the permission of one of the instructors is required.

Premedical students usually take BIOL UN2005 INTRO BIO I: BIOCHEM,GEN,MOLEC-BIOL UN2006 INTRO BIO II:CELL BIO,DEV/PHYS after a year of general chemistry.

Students with advanced placement in biology are expected to take BIOL UN2005 INTRO BIO I: BIOCHEM,GEN,MOLEC as their initial biology course, because BIOL UN2005 INTRO BIO I: BIOCHEM,GEN,MOLEC-BIOL UN2006 INTRO BIO II:CELL BIO,DEV/PHYS is taught at a level of detail and depth not found in most advanced placement courses.

**Core Courses**

Two out of the following six departmental core courses are required:

BIOL UN3022	DEVELOPMENTAL BIOLOGY
BIOL UN3031	GENETICS
BIOL UN3041	CELL BIOLOGY
BIOL GU4501 or BIOL UN3300	Biochemistry
BIOL GU4512	Molecular Biology
BIOL GU4560	EVOL IN THE AGE OF GENOMICS

**Laboratory Courses**

A laboratory experience in biology is required. It may be fulfilled by completing any one of the following options:

**Option 1:**

Select one of the following 5-point laboratory courses:

BIOL UN3058	PROJECT LAB IN MICROBIOLOGY
BIOL UN3052	PROJECT LAB-MOLECULAR GENETICS

**Option 2:**

BIOL UN2501	CONTEMPORARY BIOLOGY LAB
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Select an additional 3-point lab such as BIOL UN3040, a 5-point project lab, or a Barnard lab. Barnard labs must be approved by a Biology Major Adviser.

**Option 3:**

Two terms of BIOL UN3500 (3 or 4 credits per term), including the submission of a satisfactory research report at the end of each semester

**Option 4:**

Completion of all the requirements for one session of the Summer Undergraduate Research Fellowship (SURF). An additional semester of BIOL UN3500 in the same research lab is recommended but not required. Summer lab work under other auspices may not be substituted for the SURF Program.

**Upper-Level Elective Courses**

Select two additional courses, carrying at least 3 points each, from any of the 3000- or 4000- level lecture courses. BIOL UN3500 INDEP BIOLOGICAL RESEARCH cannot be used as one of the courses to satisfy the upper-level elective course requirement. Any course not listed below must be approved by a biology adviser to count toward the major.

Two additional 3000 or 4000 level biology lecture courses from the following:

BIOL UN3004	NEUROBIO I:CELLULAR # MOLECU LR
BIOL UN3005	NEUROBIO II: DEVPT # SYSTEMS
BIOL UN3006	PHYSIOLOGY

BIOL UN3019	Brain Evolution
BIOL UN3022	DEVELOPMENTAL BIOLOGY
BIOL UN3025	NEUROGENETICS
BIOL UN3031	GENETICS
BIOL UN3041	CELL BIOLOGY
BIOL UN3073	CELLULAR/MOLECULAR IMMUNOLOGY
BIOL UN3300	Biochemistry
BIOL UN3320	Regulation of Behaviors for Survival
BIOL UN3404	The Global Threat of Antimicrobial Resistance
BIOL UN3560 or BIOL GU4560	EVOL IN THE AGE OF GENOMICS
BIOL UN3799 or BIOL GU4799	MOLECULAR BIOLOGY OF CANCER
BIOL GU4001	ADVANCED GENETIC ANALYSIS
BIOL GU4002	Macromolecular Structure # Interactions
BIOL GU4034	BIOTECHNOLOGY
BIOL GU4035	SEMINAR IN EPIGENETICS
BIOL GU4036	Transformative Concepts in Systems Biology
BIOL GU4075	BIOLOGY AT PHYSICAL EXTREMES
BIOL GU4080	ANCIENT AND MODERN RNA WORLDS
BIOL GU4193	Stem Cell Biology and Applications
BIOL GU4290	BIOLOGICAL MICROSCOPY
BIOL GU4300	DRUGS AND DISEASE
BIOL GU4310 - Virology	
BIOL GU4323	BIOPHYSICAL CHEMISTRY I
CHEM GU4324	BIOPHYSICAL CHEMISTRY II
BIOL GU4402	Biological Image Computing
BIOL GU4501	Biochemistry
BIOL GU4510	Genomics of Gene Regulation
BIOL GU4512	Molecular Biology
BIOL GU4551	A Structural View of Biology
BIOL GU4600	CELL SIGNALING
BIOL GU4777	From Curiosity to Cure – Case Studies in Cool Biochemistry

Note: SCNC, HPSC & BIOT (many of which are listed on the biology website) courses do not count towards the Major.

**Chemistry**

All majors must take chemistry through organic including labs. One of the following three groups of chemistry courses is required:

**Option 1:**

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
CHEM UN1500 & CHEM UN1501	GENERAL CHEMISTRY LABORATORY and GENERAL CHEMISTRY LAB-LECTURE
CHEM UN2443 & CHEM UN2444	ORGANIC CHEMISTRY I- LECTURES and ORGANIC CHEMISTRY II- LECTURES
CHEM UN2493 & CHEM UN2494	ORGANIC CHEM. LAB I TECHNIQUES and ORGANIC CHEM. LAB II SYNTHESIS

**Option 2:**

For students who qualify for intensive chemistry

CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2444 & CHEM UN2443	ORGANIC CHEMISTRY II- LECTURES and ORGANIC CHEMISTRY I- LECTURES
CHEM UN2495 & CHEM UN2496	ORGANIC CHEM. LABORATORY I and ORGANIC CHEM. LABORATORY II

**Option 3:**

For students who qualify for first year organic chemistry

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045 & CHEM UN2046	INTENSVE ORGANIC CHEMISTRY and INTENSVE ORG CHEM- FOR 1ST YEAR
CHEM UN2495 & CHEM UN2496	ORGANIC CHEM. LABORATORY I and ORGANIC CHEM. LABORATORY II
OR	
CHEM UN2545	INTENSIVE ORGANIC CHEM LAB

**Physics**

Students must take two terms of physics including the accompanying labs. The usual choices are PHYS UN1201-PHYS UN1202 GENERAL PHYSICS II and PHYS UN1291-PHYS UN1292 GENERAL PHYSICS II LABORATORY. Higher-level physics sequences are also acceptable. The 1400-level sequence is recommended for students who plan to take three terms of physics.

**Mathematics**

Two semesters of calculus or honors mathematics are required. Students may substitute one semester of statistics (STAT UN1101 or STAT UN1201) for one semester of calculus. For students with AP credit, completion of MATH UN1102 CALCULUS II, MATH UN1201 CALCULUS III, or MATH UN1207 HONORS MATHEMATICS A is sufficient. However, students with AP credit are encouraged to take additional courses in mathematics or statistics at Columbia.

For more details on the biology major requirements, visit <http://biology.columbia.edu/pages/biology-major-requirements>.

**Major in Biochemistry**

The required basic courses for the biochemistry major are chemistry through organic, including laboratory, and one year each of physical chemistry, physics, calculus, biology, and biochemistry/molecular biology. The required additional courses are three lecture courses chosen from mathematics, chemistry, and biology, and two upper-level laboratory courses.

Questions regarding the major in general and chemistry requirements should be addressed to the chemistry adviser and questions regarding biology requirements should be addressed to the biology adviser.

For more details, see the [Chemistry](#) section in this Bulletin. For additional information visit the Department of Biological Sciences website: <http://biology.columbia.edu/pages/biochemistry-major-requirements>.

**Major in Biophysics**

The requirements for the biophysics major are as follows:

**BIOLOGY COURSES**

One year of introductory biology:

BIOL UN2005 & BIOL UN2006	INTRO BIO I: BIOCHEM, GEN, MOLEC and INTRO BIO II: CELL BIO, DEV/PHYS
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Select at least one of the following laboratory courses:

BIOL UN3052	PROJECT LAB-MOLECULAR GENETICS
or BIOL UN3058	PROJECT LAB IN MICROBIOLOGY
or BIOL UN3500	INDEP BIOLOGICAL RESEARCH
or RSRH C0001	FULL-TIME SUMMER RESEARCH PROG

One course in biochemistry or molecular biology:

BIOL GU4501	Biochemistry
or BIOL UN3300	Biochemistry
or BIOL GU4512	Molecular Biology



Select one of the following core courses:

BIOL GU4002	Macromolecular Structure # Interactions
or BIOL GU4075	BIOLOGY AT PHYSICAL EXTREMES
or BIOL GU4323	BIOPHYSICAL CHEMISTRY I
or CHEM GU4324	BIOPHYSICAL CHEMISTRY II
or BIOL GU4551	A Structural View of Biology

### PHYSICS COURSES

Select one of the following sequences to be completed at the end of sophomore year:

PHYS UN1401 & PHYS UN1402 & PHYS UN1403 & PHYS UN1494	INTRO TO MECHANICS # THERMO and INTRO ELEC/ MAGNETISM # OPTICS and INTRO-CLASSCL # QUANTUM WAVES and INTRO TO EXPERIMENTAL PHYS-LAB
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PHYS UN1601 & PHYS UN1602 & PHYS UN2601 & PHYS UN1494	PHYSICS I:MECHANICS/ RELATIVITY and PHYSICS II: THERMO, ELEC # MAG and PHYSICS III:CLASS/ QUANTUM WAVE and INTRO TO EXPERIMENTAL PHYS-LAB
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PHYS UN2801 & PHYS UN2802 & PHYS UN3081	ACCELERATED PHYSICS I and ACCELERATED PHYSICS II and INTERMEDIATE LABORATORY WORK
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Select any two physics courses at the 3000-level or above, chosen in consultation with the adviser.

### MATH COURSES

Calculus I-IV or Ordinary Differential Equations:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 or MATH UN3027	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV Ordinary Differential Equations
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### CHEMISTRY COURSES

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
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### BIOLOGY/PHYSICS ELECTIVE COURSE

Select one additional course at the 3000- or 4000-level, in either physics or biology. The following are some suggested courses:

BIOL UN3004	NEUROBIO I:CELLULAR # MOLECLR
or BIOL UN3005	NEUROBIO II: DEVPT # SYSTEMS
or BIOL UN3022	DEVELOPMENTAL BIOLOGY
or BIOL UN3031	GENETICS

For more details, see the *Physics* section in this Bulletin or visit the Department of Biological Sciences website: <http://biology.columbia.edu/pages/biophysics-major-requirements>.

## Major in Neuroscience and Behavior

In addition to one year of college general chemistry, eleven courses are required to complete the major in neuroscience and behavior—six in biology and five in psychology.

NOTE: For students entering in Fall 2024 or later, two biology elective courses will be required. For students entering prior to Fall 2024, one biology elective course will be required.

For the five courses required in Psychology, see the *Psychology* section in this Bulletin or visit <http://biology.columbia.edu/pages/neuroscience-and-behavior-major-requirements>.

### CHEMISTRY COURSES

One year of college chemistry is required prior to taking Introductory Biology.

### BIOLOGY COURSES

One year of introductory biology.

BIOL UN2005 & BIOL UN2006	INTRO BIO I: BIOCHEM,GEN,MOLEC and INTRO BIO II:CELL BIO,DEV/PHYS
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One year of Neurobiology

BIOL UN3004 & BIOL UN3005	NEUROBIO I:CELLULAR # MOLECLR and NEUROBIO II: DEVPT # SYSTEMS
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Two additional 3000 or 4000 level biology lecture courses from the list of Upper Level Electives under the Biology Major.

### AN ADDITIONAL 5 COURSES IN PSYCHOLOGY ARE REQUIRED FOR THE MAJOR

Please see the Psychology Bulletin linked above.

## Major in Computational Biology

The Computational Biology major program combines a strong foundation in computer science/data science and basic biology with advanced courses in a variety of subfields. Particular emphasis is placed on laboratory and computational techniques, including genomics, network modeling, and bioinformatics.

Alternative sequences to the above may be arranged in special circumstances with the permission of the departmental adviser or director of undergraduate studies obtained in advance. All exceptions granted by computer



science or biology advisers should be forwarded to Ellie Siddens ([mes2314@columbia.edu](mailto:mes2314@columbia.edu)) in biological sciences.

Questions regarding biology requirements should be addressed to the biology adviser and questions regarding computer science or math requirements should be addressed to the computer science advisers.

The required courses are listed below. For details about the Major in Computational Biology, see here: <https://biology.columbia.edu/content/undergraduate-major-requirements>

#### Mathematics foundations (4 classes, 12-17 credits)

The following calculus courses are required:

MATH UN1101	CALCULUS I	can be placed out of with AP/IB credit
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MATH UN1102	CALCULUS II	Calculus III does NOT depend on Calculus II.
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or MATH UN1201	CALCULUS III	
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All students must complete computer-science-directed mathematical foundations classes.

MATH UN2010	LINEAR ALGEBRA
or APMA E3101	APPLIED MATH I: LINEAR ALGEBRA
or APMA E2101	INTRO TO APPLIED MATHEMATICS
or COMS W3251	COMPUTATIONAL LINEAR ALGEBRA

and

STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS
or STAT UN1201	CALC-BASED INTRO TO STATISTICS

#### Chemistry Foundations (2 classes, 8 credits)

Option 1: General Chemistry

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
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Option 2: For students who qualify for intensive general chemistry

CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
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#### Introductory Computer Sciences (3 classes, 9-11 credits)

All students must complete sequentially three courses in computer science:

COMS W1002	COMPUTING IN CONTEXT (with Biology Context)
or ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
or COMS W1004	Introduction to Computer Science and Programming in Java

COMS W3132	Intermediate Computing in Python
or COMS W3136	ESSENTIAL DATA STRUCTURES
or COMS W3134	Data Structures in Java

or COMS W3137	HONORS DATA STRUCTURES # ALGOL
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Note: COMS 3134 and 3137 should be taken after COMS 1004 or with previous knowledge of Java

COMS W3157	ADVANCED PROGRAMMING
or COMS W3107	Clean Object-Oriented Design
or COMS W4111	INTRODUCTION TO DATABASES

#### Biology (3 classes, 11-12 credits)

All students must take the two introductory biology courses:

BIOL UN2005 & BIOL UN2006	INTRO BIO I: BIOCHEM, GEN, MOLEC and INTRO BIO II: CELL BIO, DEV/PHYS
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Students must take one course from this list of core biology courses

BIOL UN3031	GENETICS
or BIOL UN3041	CELL BIOLOGY
or BIOL UN3022	DEVELOPMENTAL BIOLOGY
or BIOL GU4501	Biochemistry
or BIOL UN3300	Biochemistry
or BIOL GU4512	Molecular Biology
or BIOL UN3005	NEUROBIO II: DEVPT # SYSTEMS

#### Lab/research (1 class, 4 credits)

All students must fulfill a laboratory/research experience. This can only be done after completing Intro Bio (BIOL UN2005 + BIOL UN2006). A research report must be submitted to either the course instructor or the lab research mentor at the end of each semester, and they must in turn confirm to the compbio major advisor that the report was satisfactory. Each project must require the student to (i) formulate a computational strategy to solve a particular biological question, (ii) develop dedicated software code or adapt existing code, (iii) use this code to analyze a suitable data set, and (iv) interpret the results from both a statistical and biological perspective. One option is to perform a research project as part of one these courses:

COMS W4995	TOPICS IN COMPUTER SCIENCE ((LAB COMPUTATIONAL BIOLOGY))
or COMS W3998	UNDERGRAD PROJECTS IN COMPUTER SCIENCE
or COMS W4901	Projects in Computer Science

The other option is to perform lab research for credit using one of these courses:

BIOL UN3500	INDEP BIOLOGICAL RESEARCH
or RSRH C0001	FULL-TIME SUMMER RESEARCH PROG

BIOL UN3500 Independent Biological Research (must be taken for four credits) in a pre-approved lab RSRH 0001 Summer Undergraduate research fellowship (SURF) in a pre-approved lab

Pre-approved labs include Peter Andolfatto, Elham Azizi, Andrew Blumberg, Harmen Bussemaker, Bianca Dumitrascu, Jellert Gaubomme, David Knowles, Itsik Pe'er, Molly Przeworski, Guy Sella, Simon Tavaré, Saeed Tavazoie. Other labs may be allowable if the project satisfies the conditions above, but only with prior approval from the compbio major advisor.

#### Advanced Electives (2 classes, 6-8 credits)

A biology course at the 3000 or 4000 level from the list of biology major approved core and elective courses.

One of the following computational biology courses:

COMS W4762	Machine Learning for Functional Genomics
or CBMF W4761	COMPUTATIONAL GENOMICS
or BMEN E4480	Statistical machine learning for genomics
or COMS W4995	- computational biology section

### Minor in Biology

Students who wish to minor in biology must design their programs in advance with the director of undergraduate studies or a departmental adviser.

The minor would require 7 courses (25 credits), at least 2 are general chemistry [8 credits] and at least 5 biology [17 credits].

The requirements for the minor in biology are as follows:

#### CHEMISTRY COURSES

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I-LECTURES and GENERAL CHEMISTRY II-LECTURES
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#### BIOLOGY COURSES

BIOL UN2005 & BIOL UN2006	INTRO BIO I: BIOCHEM,GEN,MOLEC and INTRO BIO II:CELL BIO,DEV/PHYS
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Select at least one of the following core courses:

BIOL UN3022	DEVELOPMENTAL BIOLOGY
BIOL UN3031	GENETICS
BIOL UN3041	CELL BIOLOGY

BIOL GU4501	Biochemistry
or BIOL UN3300	Biochemistry

BIOL GU4512	Molecular Biology
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BIOL GU4560	EVOL IN THE AGE OF GENOMICS
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Two additional 3000 or 4000 level biology lecture courses from the list of Upper Level Electives under the Biology Major.

No lab is required for the biology minor. However, only one biology lab can count towards the 5 biology course requirements. The biology lab options consists of the following:

BIOL UN2501	CONTEMPORARY BIOLOGY LAB
or BIOL UN3040	LAB IN MOLECULAR BIOLOGY

or BIOL UN3058	PROJECT LAB IN MICROBIOLOGY
or BIOL UN3052	PROJECT LAB-MOLECULAR GENETICS
or BIOL UN3500	INDEP BIOLOGICAL RESEARCH
or RSRH C0001	FULL-TIME SUMMER RESEARCH PROG

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Biology

The concentration in Biology is only available for students who entered CU in or before the 23-24 academic year.

Students who wish to concentrate in biology must design their programs in advance with a departmental adviser or the director of undergraduate studies.

The requirement for the concentration is 22 points in biology or biochemistry, with at least five courses chosen from the courses listed in the Biological Sciences section of the Bulletin. Additional courses in physics, chemistry, and mathematics are required as detailed below.

Students may not use transfer credits, Barnard courses or courses taken abroad for the biology minor biology course requirements. Please contact Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) regarding using either transfer credits or courses taken while studying abroad to substitute for the general chemistry course requirements.

The requirements for the concentration in biology are as follows:

BIOL UN2005	INTRO BIO I: BIOCHEM,GEN,MOLEC
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BIOL UN2006	INTRO BIO II:CELL BIO,DEV/ PHYS
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Select at least one of the following core courses:

BIOL UN3022	DEVELOPMENTAL BIOLOGY
BIOL UN3031	GENETICS
BIOL UN3041	CELL BIOLOGY

BIOL GU4501	Biochemistry
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or BIOL UN3300	Biochemistry
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BIOL GU4512	Molecular Biology
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Plus additional biology elective courses (see electives listed under biology major) to reach a total of 22 points in biology courses.

No biology lab is required for the concentration. Of the 22 points, a maximum of 5 of the points can come from lab courses. SURF counts as 5 points of lab credit.

Chemistry through organic including labs; see biology major for options

One year of physics, including laboratory; see biology major for options

One year of college-level mathematics (ordinarily this should be calculus); see biology major for options

## BIOPHYSICS

### THE DEPARTMENT OF BIOLOGICAL SCIENCES:

Department website: <http://www.biology.columbia.edu>  
Office location: 600 Sherman Fairchild Center  
Office contact: 212-854-4581, [biology@columbia.edu](mailto:biology@columbia.edu)  
Director of Undergraduate Studies: Alice Heicklen,  
[ah2289@columbia.edu](mailto:ah2289@columbia.edu)  
Undergraduate Administrator: Ellie Siddens,  
[mes2314@columbia.edu](mailto:mes2314@columbia.edu)

### THE STUDY OF BIOLOGICAL SCIENCES

The department offers broad training in basic biological disciplines, with an emphasis in cell and molecular biology. Students have many opportunities to participate in ongoing projects in research laboratories. All the biology-related majors require one year of introductory biology, plus additional courses as detailed in the major requirements and listed on the websites provided above.

The usual one-year introductory biology sequence is [BIOL UN2005 INTRO BIO I: BIOCHEM, GEN, MOLEC](#)-[BIOL UN2006 INTRO BIO II: CELL BIO, DEV/PHYS](#), taken in the sophomore year, after one year of general chemistry. For more details, see Introductory Courses under [Requirements —Major in Biology](#). All students interested in biology are encouraged to take [BIOL UN1908 First Year Seminar in Biology](#) in the fall semester of their first year.

#### Online Resources:

- [FAQs for first-year students, prospective & current majors, and transfer students](#)
- [Checklist of major requirements](#)
- [Additional course information](#)
- [Undergraduate research & job opportunities](#)

## STUDENT ADVISING

### Consulting Advisers

Peer Mentors - Login to Lionmail to access this Google sheet. Any current or prospective student may contact a peer mentor with questions about classes, professors, research experience, or anything related to your current or prospective bio-related major.

Before contacting an advisor, check whether your question has been answered in our undergraduate [FAQs](#).

For a list of current biology, biochemistry, biophysics, and neuroscience and behavior advisers, please visit <http://biology.columbia.edu/content/advisors>

### Biology Major (CC) and Minor Advisers (CC & GS):

For students with last names beginning with:

- A-N: Dr. Mary Ann Price;  
[map2293@columbia.edu](mailto:map2293@columbia.edu)
- O-Z: Dr. Michelle Attner;  
[ma3325@columbia.edu](mailto:ma3325@columbia.edu)

### Biology Major Adviser (GS):

Dr. Deborah Mowshowitz; [dbm2@columbia.edu](mailto:dbm2@columbia.edu)

### Biochemistry Advisers (CC & GS):

Chemistry: Dr. Vesna Gasperov;  
[vg2231@columbia.edu](mailto:vg2231@columbia.edu)

Biology: Dr. Ava Brent; [aeb28@columbia.edu](mailto:aeb28@columbia.edu)

### Biophysics Adviser (CC & GS):

Dr. Josh Abrams; [jma2278@columbia.edu](mailto:jma2278@columbia.edu)

### Computational Biology Advisor (CC & GS):

Biology: For students with last names beginning with:

- A-N: Dr. Harmen Bussemaker;  
[hjb2004@columbia.edu](mailto:hjb2004@columbia.edu)
- O-Z: Dr. Simon Tavaré; [st3193@columbia.edu](mailto:st3193@columbia.edu)

Computer Science: For students with last names beginning with:

- A-N: Dr. Itsik Pe'er; [ip2169@columbia.edu](mailto:ip2169@columbia.edu)
- O-Z: Dr. David Knowles; [dak2173@columbia.edu](mailto:dak2173@columbia.edu)

### Neuroscience and Behavior Advisers (CC):

Biology: Dr. Erin Barnhart; [eb3305@columbia.edu](mailto:eb3305@columbia.edu)

Psychology: Dr. Alfredo Spagna;  
[as5559@columbia.edu](mailto:as5559@columbia.edu)

### Neuroscience and Behavior Advisers (GS):

Biology: Dr. Deborah Mowshowitz;  
[dbm2@columbia.edu](mailto:dbm2@columbia.edu)

Psychology: Dr. Alfredo Spagna,  
[as5559@columbia.edu](mailto:as5559@columbia.edu)

## Enrolling in Classes

Registration for each term occurs within designated periods. Within these periods, you will be assigned specific registration appointment times. For continuing students, your appointment times will generally be

available on [Student Services Online](#) (SSOL) two weeks prior to the registration period, but specific registration instructions are announced by each school in advance of each registration period.

- [Check appointment times](#)
- [Register](#)

Students can also check the [Directory of Classes](#) by looking for “B” under Departments and selecting “Biological Sciences”.

## Preparing for Graduate Study

Advisor for students applying to graduate school or looking for bio-related jobs. (Students applying to medical school should consult the pre-professional office.)

Dr. Molly Przeworski; [mp3284@columbia.edu](mailto:mp3284@columbia.edu)

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

If you got a 5 on the AP biology test, you get 3 points of credit toward graduation. Students with a 5 on the AP should take [BIOL UN2005](#) INTRO BIO I: BIOCHEM, GEN, MOLEC and [BIOL UN2006](#) INTRO BIO II: CELL BIO, DEV/PHYS.

BIOL UN2005-UN2006 is not a repeat of AP bio. It demands not only more detail but more thought and application of knowledge to problem-solving than the usual AP course. It is narrower but deeper than the usual introductory biology course. You may review [this exam](#) from a previous year of UN2005 and compare your answers with [the exam key](#). This will give you an idea of what makes UN2005/6 a unique Intro Bio sequence. If you still feel that you are sufficiently prepared, please consult a [biology advisor](#) who on rare occasions can give permission to place out of Intro Bio I and II. You will still be required to take 6 biology courses at Columbia if you place out of Intro Bio.

### Barnard College Courses

Barnard courses may not be substituted for the required Columbia courses without advance permission from the advisor. Students may not use Barnard courses for the biology minor.

### Transfer Courses

Transfer credits for the majors, concentrators, and the biology minor are not automatically granted. Students should email their [Biology advisor](#) with a transcript and the syllabi from their previous institution to request transfer credit. Transfer credit for Introductory Biology is rarely granted. You can read more about transfer

credits in this [FAQ](#). Students may not use transfer courses for the biology minor.

## Study Abroad Courses

If you are planning to study abroad, please meet with your [Advisor](#) before you go. You'll need prior approval for any majors, concentrators, and biology minor courses that you take abroad. Students may not use study abroad courses for the biology minor.

## Summer Courses

The Department of Biological Sciences offers limited summer courses. Check the [Directory of Classes](#) for Summer course information.

## CORE CURRICULUM CONNECTIONS

Unfortunately, most biology courses are not suitable for most nonscience majors. There are two biology courses in the dept that are designed primarily for nonscientists: Science and Society (BIOL UN1360), and Interpreting Scientific Evidence (BIOL UN2300).

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

#### SURF

First-year students, sophomores, and juniors are eligible for the department's paid internship program (SURF). This program is competitive; the department cannot assure every eligible student a place in any given summer.

A faculty committee headed by Dr. Alice Heicklen then matches selected students to appropriate labs. The deadline for SURF applications is at the beginning of the spring semester.

SURF students must submit a report on their work at the end of the summer session and participate in the following year's annual Undergraduate Research Symposium. Although it does not carry any academic credit, SURF can be used toward the lab requirement for majors and toward graduation with honors. Current detailed descriptions of the SURF program and the application procedure are available at SURF's website, <https://biology.columbia.edu/content/surf>. For more information on the Amgen Scholarship Program, please visit <https://biology.columbia.edu/content/amgen-scholars-program>. Applications to all of these programs are through SURF.



## UN3500

Students can get academic credit for working in a lab, by registering for BIOL UN3500 Independent Research. This is not to be confused with SURF or the Amgen Scholars Program, which fulfill the biology major lab requirement but does not confer academic credit. Generally students register for 3 or 4 credits. A general rule is 4 hours lab time/week/credit, i.e. register for 3 credits for 12 hours of lab time/week and 4 credits from 16 hours of lab time/week. You will need to find a lab to work in. Please make it clear to the head of the lab whether you need to work 12 or 16 hours/week. If you are taking this class for a lab requirement, you need to take it for a letter grade. You will be required to write a research paper at the end of the semester. (See [UN3500](#) requirements.)

While it's nice to be able to get credit for your lab experience, keep in mind that this means that you're making a commitment to work there for the entire semester.

## Senior Thesis Coursework and Requirements

The biology-related majors in the Department of Biological Sciences do not include a Senior Thesis.

## Undergraduate Research Outside of Courses

Please see the [Undergraduate Research](#) page on the department website for advice and information on undergraduate research.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Students must apply for departmental honors. Applications are due no later than one day before spring break of their senior year. For details, please visit the departmental website at <https://biology.columbia.edu/content/honors-biological-sciences>.

### Academic Prizes

#### Bridges and Sturtevant Prize

This prize results from an anonymous donation in 2011 establishing an endowment for the prize. Bridges and Sturtevant were certainly amazing Columbia undergrads who were true pioneers of modern genetics. Alfred Sturtevant is recounted to have taken time off from studying for classes one weekend to work on understanding some crosses. The result was his figuring out that genes were arranged in a row on a chromosome.

The prize description reads: "Columbia shall .... award an annual prize to be known as the Bridges

and Sturtevant Prize in Biological Sciences in honor of Calvin Bridges and Alfred Sturtevant. Their pioneering studies as Columbia College undergraduates - using the fruit fly *Drosophila melanogaster* in Thomas Hunt Morgan's laboratory - laid the basis for our understanding of genes and the way they behave. Each year the prize will be awarded to one or more graduating seniors whose experimental or computational research is deemed to have been both highly original and fruitful by a committee of faculty to be selected by the Chair of Biological Sciences."

Faculty members in the Dept. of Biological Sciences can nominate student(s) for the prize. A committee of faculty members decide who will receive the award.

It is awarded yearly, just before graduation.

Awarded to a graduating senior whose research has been deemed highly original and fruitful.

Each student is awarded a monetary prize.

## PROFESSORS

Peter Andolfatto

Harmen Bussemaker

Martin Chalfie

Stuart Firestein

Joachim Frank

Iva Greenwald

Oliver Hobert

John Hunt

Songtao Jia

Daniel Kalderon

Darcy Kelley

Laura Landweber

James Manley

Carol Prives

Ronald Prywes



Molly Przeworski

Ozgur Sahin

Brent Stockwell

Simon Tavare

Saeed Tavazoie

Liang Tong

Jian Yang

Rafael Yuste

## ASSOCIATE PROFESSORS

Lars Dietrich

Guy Sella

## ASSISTANT PROFESSORS

Ishmail Abdus-Saboor

Erin Barnhart  
Laura Duvall

Jellert Gaublonne

Marko Jovanovic

Raju Tomer  
Maria Tosches

## LECTURERS

Joshua Abrams

Michelle Attner

Ava Brent

Alice Heicklen

Mary Ann Price

Lili Yamasaki

## ADJUNCT FACULTY

Lewis Brown  
Ronald Guido

Nam Ho

Donald Kirsch

John Loike

Alan Morrison

Deborah Mowshowitz

Vincent Racaniello

David Sable

Christian Schindler

Harold Varmus

## Program Planning for all Students

Students majoring or minoring in Biology or Related Fields:

1. Review the requirements for your desired major/minor detailed in the links below. Please email Ellie Siddens (mes2314@columbia.edu) to go over the progress of your major completion.
2. Fill out a [major planning form](#) as far as you can, using the checklist and the information in [the bulletin](#). Include both courses you have completed AND courses you plan to take to complete your major.
3. Consult the appropriate [departmental adviser](#) to discuss any variances from the normal guidelines. Your adviser will then email any approved variances from the normal requirements to the biology departments administrator, Ellie Siddens, who will approve your major completion for graduation.
4. Visit the [Major Declaration Page](#) during the Major Declaration Period (usually Spring Break of your Sophomore year) to officially declare your major.

For students majoring in Biochemistry or Neuroscience & Behavior (joint majors), you should consult advisers in both departments to plan your program, each regarding their specific courses (e.g. biology course exceptions will need to be approved by a biology adviser, chemistry course exceptions will need to be approved by a chemistry adviser).

Returning students should check the departmental website for any last-minute changes and/or additional information.

See especially undergraduate updates and list of department courses. All major and minor requirements are detailed on the website and links provided below.

## Double Majoring/Minoring

The Department of Biological Sciences offers five undergraduate majors (Biology, Biophysics, Biochemistry, Computational Biology, and Neuroscience and Behavior), along with a Biology Minor, across two schools: Columbia College and General Studies. Students can only choose one major/minor within the Department. You may not major in Biology/ Biochemistry/ Biophysics/ Computational Biology/ Neuroscience & Behavior and have a Biology Minor.

You cannot major in:

- Biochemistry & also major / minor in chemistry
- Biophysics & also major / minor in physics
- Computational biology & also major / minor in computer science or major/minor in math
- Neuroscience & also major / minor in psychology

Students can only double count two of the following fundamental courses for both a biology-related major/minor and any other major / minor they pursue: General Chemistry I & II or Calc I & II.

Biochemistry (BIOL UN3300 or BIOL GU4501) cannot be counted for a biology-related major / minor and for any other major / minor.

## Course Numbering Structure

NOTE: Numbering does not reflect difficulty but rather whether UGs & graduate students have different requirements:

3000 – Only UGs register

4000 – UGs and graduate students perform the same

5000 – Only graduate students register, requires additional work beyond the 3000 course; 3000 (UGs) & 5000 (Grad.) are different versions of the same course, i.e. same time, location, and lectures

## Guidance for First-Year Students

Please see the [FAQs for First-Year Students](#).

## Guidance for Transfer Students

Please see the [FAQs for Transfer Students](#).

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

All majors and the minor should start with General Chemistry 1 & 2 in their first year at Columbia. This is a

required prerequisite before you may begin the Introductory Biology sequence.

All biology-related majors: at least 4 biology or biochemistry courses and at least 18 credits of the total (biology, biochemistry, math, physics, and chemistry) must be taken at Columbia. Barnard courses may not be substituted for the required Columbia courses without advance permission from the adviser. The two required core courses should be taken at Columbia. Courses covering the same topics as Bio dept core courses, but taken elsewhere, are counted as electives, not as core courses.

### Exceptions to Requirements

Students must get written permission in advance for any exceptions to the requirements listed below. For the exceptions to be applied toward graduation, the student must get the exception approved by the faculty adviser, who will then send an e-mail explaining the exceptions to [mes2314@columbia.edu](mailto:mes2314@columbia.edu).

### Grade Requirements for the Major

A grade of C- or higher must be earned and revealed on your transcript for any course – including the first – to be counted toward the major, minor, or concentration requirements. The grade of P is not acceptable. A course that was taken Pass/D/Fail may be counted if and only if the P is uncovered by the Registrar's deadline.

Please note that a few exceptions are applicable for the following terms:

- All courses in Spring 2020 were taken with mandatory Pass/Fail grades.
- Further exceptions are allowed for 2020-2021, when students can opt to take one course Pass/Fail during the Fall 2020, Spring 2021, and Fall 2021 semesters, without any restrictions - this can be in a course required for their major or minor.
- In Spring 2024, students could opt to take two major/minor courses Pass/Fail.

If you are concerned about a P grade counting for the major, please consult with your adviser.

### COURSES

#### Non-Major Courses

The following biology-related courses do not count towards the major or as one of the 4 courses that all biology majors must take at Columbia University. This list is not exhaustive, and you should discuss your major courses with your biology adviser.

- BIOL UN1004 Foundations of Biology
- BIOL UN1130 Genes and Development

- BIOL UN1360 Science and Society
- BIOL UN1908 First-year seminar in biology
- BIOL UN2300 Interpreting Scientific Evidence
- BIOL UN3920 Ignorance
- BIOL UN3995 Topics in Biology: Crossroads in Bioethics
- BIOL GU4305 Seminar in Biotechnology
- BIOL GU4506 Biochemistry in XR: Mixed Reality
- BIOT GU4160 Biotechnology Law
- BIOT GU4180 Entrepreneurship in Biotech
- BIOT GU4200 Biopharmaceutical Development & Regulation
- BIOT GU4201 Seminar in Biotech Development & Regulation
- BIOT GR5170 Intro to Management Principles
- CMLS UN3965 Precision Medicine: Biology
- Any course beginning with the HPSC, SCNC, or BIOT prefix
- All Barnard Courses

## Repeating Biology Courses

Introductory biology I & II (BIOL UN2005/6 & BIOL UN2401/2) may only be taken twice, this includes taking two exams, W, D and F. You may petition to take intro bio I or II a third time. 3000 & 4000 level biology courses may only be taken once. You may petition to take the same course a second time.

## Prerequisites

Course prerequisites are strictly enforced. Prerequisites must be taken before the course, not after or concurrently. Biology courses taken before the completion of any of its prerequisites, even with instructor approval, are not counted toward the major, minor, or interdepartmental majors. Exemptions from a prerequisite requirement may only be made, in writing, by the department's director of undergraduate studies. Credits from a course taken prior to the completion of its prerequisites are not counted towards the major requirements. As a consequence, students are required to complete additional, specific courses in biology at the direction of the director of undergraduate studies.

## 4+1 Programs

A B- or better in both introductory biology I & II (BIOL UN2005 & BIOL UN2006) are required to be eligible for any 4+1 programs.

## Major in Biology

### General Information

The requirements for the biology major include courses in biology, chemistry, physics, and mathematics.

The required biology courses are one year of introductory biology, two core courses in biology, two 3-point electives in biology, and an appropriate lab experience. See below for details.

The required courses outside the biology department are chemistry through organic (plus labs), one year of college-level physics (plus lab), and the completion of one year of college-level mathematics (usually calculus).

Alternative sequences to the above may be arranged in special circumstances, but only with the permission of a departmental adviser or the director of undergraduate studies obtained in advance. For example, selected courses at the Columbia-Presbyterian Medical Center are open to advanced undergraduates with adviser approval. Credit toward the major for courses not listed in the Columbia College Bulletin must be discussed in advance with a departmental adviser or the director of undergraduate studies. Students are responsible for notifying the department of all exceptions either in writing or by e-mail as explained above.

Students planning graduate work in biology should keep in mind that physical chemistry and statistics are important for many graduate programs.

### Introductory Courses

The usual one-year introductory biology sequence is BIOL UN2005 INTRO BIO I: BIOCHEM,GEN,MOLEC-BIOL UN2006 INTRO BIO II:CELL BIO,DEV/PHYS, taken in the sophomore year.

Other sequences require permission in advance from a departmental adviser or the director of undergraduate studies. Students with a strong background in chemistry or molecular biology may take BIOL UN2005 INTRO BIO I: BIOCHEM,GEN,MOLEC-BIOL UN2006 INTRO BIO II:CELL BIO,DEV/PHYS in their first year; the permission of one of the instructors is required.

Premedical students usually take BIOL UN2005 INTRO BIO I: BIOCHEM,GEN,MOLEC-BIOL UN2006 INTRO BIO II:CELL BIO,DEV/PHYS after a year of general chemistry.

Students with advanced placement in biology are expected to take BIOL UN2005 INTRO BIO I: BIOCHEM,GEN,MOLEC as their initial biology course, because BIOL UN2005 INTRO BIO I: BIOCHEM,GEN,MOLEC-BIOL UN2006 INTRO BIO II:CELL BIO,DEV/PHYS is taught at a level of detail and depth not found in most advanced placement courses.

**Core Courses**

Two out of the following six departmental core courses are required:

BIOL UN3022	DEVELOPMENTAL BIOLOGY
BIOL UN3031	GENETICS
BIOL UN3041	CELL BIOLOGY
BIOL GU4501 or BIOL UN3300	Biochemistry
BIOL GU4512	Molecular Biology
BIOL GU4560	EVOL IN THE AGE OF GENOMICS

**Laboratory Courses**

A laboratory experience in biology is required. It may be fulfilled by completing any one of the following options:

**Option 1:**

Select one of the following 5-point laboratory courses:

BIOL UN3058	PROJECT LAB IN MICROBIOLOGY
BIOL UN3052	PROJECT LAB-MOLECULAR GENETICS

**Option 2:**

BIOL UN2501	CONTEMPORARY BIOLOGY LAB
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Select an additional 3-point lab such as BIOL UN3040, a 5-point project lab, or a Barnard lab. Barnard labs must be approved by a Biology Major Adviser.

**Option 3:**

Two terms of BIOL UN3500 (3 or 4 credits per term), including the submission of a satisfactory research report at the end of each semester

**Option 4:**

Completion of all the requirements for one session of the Summer Undergraduate Research Fellowship (SURF). An additional semester of BIOL UN3500 in the same research lab is recommended but not required. Summer lab work under other auspices may not be substituted for the SURF Program.

**Upper-Level Elective Courses**

Select two additional courses, carrying at least 3 points each, from any of the 3000- or 4000- level lecture courses. BIOL UN3500 INDEP BIOLOGICAL RESEARCH cannot be used as one of the courses to satisfy the upper-level elective course requirement. Any course not listed below must be approved by a biology adviser to count toward the major.

Two additional 3000 or 4000 level biology lecture courses from the following:

BIOL UN3004	NEUROBIO I:CELLULAR # MOLECU LR
BIOL UN3005	NEUROBIO II: DEVPT # SYSTEMS
BIOL UN3006	PHYSIOLOGY

BIOL UN3019	Brain Evolution
BIOL UN3022	DEVELOPMENTAL BIOLOGY
BIOL UN3025	NEUROGENETICS
BIOL UN3031	GENETICS
BIOL UN3041	CELL BIOLOGY
BIOL UN3073	CELLULAR/MOLECULAR IMMUNOLOGY
BIOL UN3300	Biochemistry
BIOL UN3320	Regulation of Behaviors for Survival
BIOL UN3404	The Global Threat of Antimicrobial Resistance
BIOL UN3560	EVOL IN THE AGE OF GENOMICS
or BIOL GU4560	EVOL IN THE AGE OF GENOMICS
BIOL UN3799	MOLECULAR BIOLOGY OF CANCER
or BIOL GU4799	MOLECULAR BIOLOGY OF CANCER
BIOL GU4001	ADVANCED GENETIC ANALYSIS
BIOL GU4002	Macromolecular Structure # Interactions
BIOL GU4034	BIOTECHNOLOGY
BIOL GU4035	SEMINAR IN EPIGENETICS
BIOL GU4036	Transformative Concepts in Systems Biology
BIOL GU4075	BIOLOGY AT PHYSICAL EXTREMES
BIOL GU4080	ANCIENT AND MODERN RNA WORLDS
BIOL GU4193	Stem Cell Biology and Applications
BIOL GU4290	BIOLOGICAL MICROSCOPY
BIOL GU4300	DRUGS AND DISEASE
BIOL GU4310 - Virology	
BIOL GU4323	BIOPHYSICAL CHEMISTRY I
CHEM GU4324	BIOPHYSICAL CHEMISTRY II
BIOL GU4402	Biological Image Computing
BIOL GU4501	Biochemistry
BIOL GU4510	Genomics of Gene Regulation
BIOL GU4512	Molecular Biology
BIOL GU4551	A Structural View of Biology
BIOL GU4600	CELL SIGNALING
BIOL GU4777	From Curiosity to Cure – Case Studies in Cool Biochemistry

Note: SCNC, HPSC & BIOT (many of which are listed on the biology website) courses do not count towards the Major.

**Chemistry**

All majors must take chemistry through organic including labs. One of the following three groups of chemistry courses is required:

**Option 1:**

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
CHEM UN1500 & CHEM UN1501	GENERAL CHEMISTRY LABORATORY and GENERAL CHEMISTRY LAB-LECTURE
CHEM UN2443 & CHEM UN2444	ORGANIC CHEMISTRY I- LECTURES and ORGANIC CHEMISTRY II- LECTURES
CHEM UN2493 & CHEM UN2494	ORGANIC CHEM. LAB I TECHNIQUES and ORGANIC CHEM. LAB II SYNTHESIS

**Option 2:**

For students who qualify for intensive chemistry	
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2444 & CHEM UN2443	ORGANIC CHEMISTRY II- LECTURES and ORGANIC CHEMISTRY I- LECTURES
CHEM UN2495 & CHEM UN2496	ORGANIC CHEM. LABORATORY I and ORGANIC CHEM. LABORATORY II

**Option 3:**

For students who qualify for first year organic chemistry	
CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045 & CHEM UN2046	INTENSVE ORGANIC CHEMISTRY and INTENSVE ORG CHEM- FOR 1ST YEAR
CHEM UN2495 & CHEM UN2496	ORGANIC CHEM. LABORATORY I and ORGANIC CHEM. LABORATORY II
OR	
CHEM UN2545	INTENSIVE ORGANIC CHEM LAB

**Physics**

Students must take two terms of physics including the accompanying labs. The usual choices are PHYS UN1201-PHYS UN1202 GENERAL PHYSICS II and PHYS UN1291-PHYS UN1292 GENERAL PHYSICS II LABORATORY. Higher-level physics sequences are also acceptable. The 1400-level sequence is recommended for students who plan to take three terms of physics.

**Mathematics**

Two semesters of calculus or honors mathematics are required. Students may substitute one semester of statistics (STAT UN1101 or STAT UN1201) for one semester of calculus. For students with AP credit, completion of MATH UN1102 CALCULUS II, MATH UN1201 CALCULUS III, or MATH UN1207 HONORS MATHEMATICS A is sufficient. However, students with AP credit are encouraged to take additional courses in mathematics or statistics at Columbia.

For more details on the biology major requirements, visit <http://biology.columbia.edu/pages/biology-major-requirements>.

**Major in Biochemistry**

The required basic courses for the biochemistry major are chemistry through organic, including laboratory, and one year each of physical chemistry, physics, calculus, biology, and biochemistry/molecular biology. The required additional courses are three lecture courses chosen from mathematics, chemistry, and biology, and two upper-level laboratory courses.

Questions regarding the major in general and chemistry requirements should be addressed to the chemistry adviser and questions regarding biology requirements should be addressed to the biology adviser.

For more details, see the [Chemistry](#) section in this Bulletin. For additional information visit the Department of Biological Sciences website: <http://biology.columbia.edu/pages/biochemistry-major-requirements>.

**Major in Biophysics**

The requirements for the biophysics major are as follows:

**BIOLOGY COURSES**

One year of introductory biology:

BIOL UN2005 & BIOL UN2006	INTRO BIO I: BIOCHEM,GEN,MOLEC and INTRO BIO II:CELL BIO,DEV/PHYS
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Select at least one of the following laboratory courses:

BIOL UN3052	PROJECT LAB-MOLECULAR GENETICS
or BIOL UN3058	PROJECT LAB IN MICROBIOLOGY
or BIOL UN3500	INDEP BIOLOGICAL RESEARCH
or RSRH C0001	FULL-TIME SUMMER RESEARCH PROG

One course in biochemistry or molecular biology:

BIOL GU4501	Biochemistry
or BIOL UN3300	Biochemistry
or BIOL GU4512	Molecular Biology



Select one of the following core courses:

BIOL GU4002	Macromolecular Structure # Interactions
or BIOL GU4075	BIOLOGY AT PHYSICAL EXTREMES
or BIOL GU4323	BIOPHYSICAL CHEMISTRY I
or CHEM GU4324	BIOPHYSICAL CHEMISTRY II
or BIOL GU4551	A Structural View of Biology

### PHYSICS COURSES

Select one of the following sequences to be completed at the end of sophomore year:

PHYS UN1401 & PHYS UN1402 & PHYS UN1403 & PHYS UN1494	INTRO TO MECHANICS # THERMO and INTRO ELEC/ MAGNETISM # OPTICS and INTRO-CLASSCL # QUANTUM WAVES and INTRO TO EXPERIMENTAL PHYS-LAB
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PHYS UN1601 & PHYS UN1602 & PHYS UN2601 & PHYS UN1494	PHYSICS I:MECHANICS/ RELATIVITY and PHYSICS II: THERMO, ELEC # MAG and PHYSICS III:CLASS/ QUANTUM WAVE and INTRO TO EXPERIMENTAL PHYS-LAB
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PHYS UN2801 & PHYS UN2802 & PHYS UN3081	ACCELERATED PHYSICS I and ACCELERATED PHYSICS II and INTERMEDIATE LABORATORY WORK
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Select any two physics courses at the 3000-level or above, chosen in consultation with the adviser.

### MATH COURSES

Calculus I-IV or Ordinary Differential Equations:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV
or MATH UN3027	Ordinary Differential Equations

### CHEMISTRY COURSES

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
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### BIOLOGY/PHYSICS ELECTIVE COURSE

Select one additional course at the 3000- or 4000-level, in either physics or biology. The following are some suggested courses:

BIOL UN3004	NEUROBIO I:CELLULAR # MOLECU
or BIOL UN3005	NEUROBIO II: DEVPT # SYSTEMS
or BIOL UN3022	DEVELOPMENTAL BIOLOGY
or BIOL UN3031	GENETICS

For more details, see the *Physics* section in this Bulletin or visit the Department of Biological Sciences website: <http://biology.columbia.edu/pages/biophysics-major-requirements>.

## Major in Neuroscience and Behavior

In addition to one year of college general chemistry, eleven courses are required to complete the major in neuroscience and behavior—six in biology and five in psychology.

NOTE: For students entering in Fall 2024 or later, two biology elective courses will be required. For students entering prior to Fall 2024, one biology elective course will be required.

For the five courses required in Psychology, see the *Psychology* section in this Bulletin or visit <http://biology.columbia.edu/pages/neuroscience-and-behavior-major-requirements>.

### CHEMISTRY COURSES

One year of college chemistry is required prior to taking Introductory Biology.

### BIOLOGY COURSES

One year of introductory biology.

BIOL UN2005 & BIOL UN2006	INTRO BIO I: BIOCHEM,GEN,MOLEC and INTRO BIO II:CELL BIO,DEV/PHYS
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One year of Neurobiology

BIOL UN3004 & BIOL UN3005	NEUROBIO I:CELLULAR # MOLECU and NEUROBIO II: DEVPT # SYSTEMS
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Two additional 3000 or 4000 level biology lecture courses from the list of Upper Level Electives under the Biology Major.

### AN ADDITIONAL 5 COURSES IN PSYCHOLOGY ARE REQUIRED FOR THE MAJOR

Please see the Psychology Bulletin linked above.

## Major in Computational Biology

The Computational Biology major program combines a strong foundation in computer science/data science and basic biology with advanced courses in a variety of subfields. Particular emphasis is placed on laboratory and computational techniques, including genomics, network modeling, and bioinformatics.

Alternative sequences to the above may be arranged in special circumstances with the permission of the departmental adviser or director of undergraduate studies obtained in advance. All exceptions granted by computer

science or biology advisers should be forwarded to Ellie Siddens ([mes2314@columbia.edu](mailto:mes2314@columbia.edu)) in biological sciences.

Questions regarding biology requirements should be addressed to the biology adviser and questions regarding computer science or math requirements should be addressed to the computer science advisers.

The required courses are listed below. For details about the Major in Computational Biology, see here: <https://biology.columbia.edu/content/undergraduate-major-requirements>

#### Mathematics foundations (4 classes, 12-17 credits)

The following calculus courses are required:

MATH UN1101	CALCULUS I	can be placed out of with AP/IB credit
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MATH UN1102	CALCULUS II	Calculus III does NOT depend on Calculus II.
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or MATH UN1201	CALCULUS III	
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All students must complete computer-science-directed mathematical foundations classes.

MATH UN2010	LINEAR ALGEBRA
or APMA E3101	APPLIED MATH I: LINEAR ALGEBRA
or APMA E2101	INTRO TO APPLIED MATHEMATICS
or COMS W3251	COMPUTATIONAL LINEAR ALGEBRA

and

STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS
or STAT UN1201	CALC-BASED INTRO TO STATISTICS

#### Chemistry Foundations (2 classes, 8 credits)

Option 1: General Chemistry

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
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Option 2: For students who qualify for intensive general chemistry

CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
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#### Introductory Computer Sciences (3 classes, 9-11 credits)

All students must complete sequentially three courses in computer science:

COMS W1002	COMPUTING IN CONTEXT (with Biology Context)
or ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
or COMS W1004	Introduction to Computer Science and Programming in Java

COMS W3132	Intermediate Computing in Python
or COMS W3136	ESSENTIAL DATA STRUCTURES
or COMS W3134	Data Structures in Java

or COMS W3137	HONORS DATA STRUCTURES # ALGOL
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Note: COMS 3134 and 3137 should be taken after COMS 1004 or with previous knowledge of Java

COMS W3157	ADVANCED PROGRAMMING
or COMS W3107	Clean Object-Oriented Design
or COMS W4111	INTRODUCTION TO DATABASES

#### Biology (3 classes, 11-12 credits)

All students must take the two introductory biology courses:

BIOL UN2005 & BIOL UN2006	INTRO BIO I: BIOCHEM, GEN, MOLEC and INTRO BIO II: CELL BIO, DEV/PHYS
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Students must take one course from this list of core biology courses

BIOL UN3031	GENETICS
or BIOL UN3041	CELL BIOLOGY
or BIOL UN3022	DEVELOPMENTAL BIOLOGY
or BIOL GU4501	Biochemistry
or BIOL UN3300	Biochemistry
or BIOL GU4512	Molecular Biology
or BIOL UN3005	NEUROBIO II: DEVPT # SYSTEMS

#### Lab/research (1 class, 4 credits)

All students must fulfill a laboratory/research experience. This can only be done after completing Intro Bio (BIOL UN2005 + BIOL UN2006). A research report must be submitted to either the course instructor or the lab research mentor at the end of each semester, and they must in turn confirm to the compbio major advisor that the report was satisfactory. Each project must require the student to (i) formulate a computational strategy to solve a particular biological question, (ii) develop dedicated software code or adapt existing code, (iii) use this code to analyze a suitable data set, and (iv) interpret the results from both a statistical and biological perspective. One option is to perform a research project as part of one these courses:

COMS W4995	TOPICS IN COMPUTER SCIENCE ((LAB COMPUTATIONAL BIOLOGY))
or COMS W3998	UNDERGRAD PROJECTS IN COMPUTER SCIENCE
or COMS W4901	Projects in Computer Science

The other option is to perform lab research for credit using one of these courses:

BIOL UN3500	INDEP BIOLOGICAL RESEARCH
or RSRH C0001	FULL-TIME SUMMER RESEARCH PROG

BIOL UN3500 Independent Biological Research (must be taken for four credits) in a pre-approved lab RSRH 0001 Summer Undergraduate research fellowship (SURF) in a pre-approved lab

Pre-approved labs include Peter Andolfatto, Elham Azizi, Andrew Blumberg, Harmen Bussemaker, Bianca Dumitrascu, Jellert Gaubomme, David Knowles, Itsik Pe'er, Molly Przeworski, Guy Sella, Simon Tavaré, Saeed Tavazoie. Other labs may be allowable if the project satisfies the conditions above, but only with prior approval from the compbio major advisor.

#### Advanced Electives (2 classes, 6-8 credits)

A biology course at the 3000 or 4000 level from the list of biology major approved core and elective courses.

One of the following computational biology courses:

COMS W4762	Machine Learning for Functional Genomics
or CBMF W4761	COMPUTATIONAL GENOMICS
or BMEN E4480	Statistical machine learning for genomics
or COMS W4995	- computational biology section

### Minor in Biology

Students who wish to minor in biology must design their programs in advance with the director of undergraduate studies or a departmental adviser.

The minor would require 7 courses (25 credits), at least 2 are general chemistry [8 credits] and at least 5 biology [17 credits].

The requirements for the minor in biology are as follows:

#### CHEMISTRY COURSES

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I-LECTURES and GENERAL CHEMISTRY II-LECTURES
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#### BIOLOGY COURSES

BIOL UN2005 & BIOL UN2006	INTRO BIO I: BIOCHEM, GEN, MOLEC and INTRO BIO II: CELL BIO, DEV/PHYS
------------------------------	--

Select at least one of the following core courses:

BIOL UN3022	DEVELOPMENTAL BIOLOGY
BIOL UN3031	GENETICS
BIOL UN3041	CELL BIOLOGY

BIOL GU4501	Biochemistry
or BIOL UN3300	Biochemistry

BIOL GU4512	Molecular Biology
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BIOL GU4560	EVOL IN THE AGE OF GENOMICS
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Two additional 3000 or 4000 level biology lecture courses from the list of Upper Level Electives under the Biology Major.

No lab is required for the biology minor. However, only one biology lab can count towards the 5 biology course requirements. The biology lab options consists of the following:

BIOL UN2501	CONTEMPORARY BIOLOGY LAB
or BIOL UN3040	LAB IN MOLECULAR BIOLOGY

or BIOL UN3058	PROJECT LAB IN MICROBIOLOGY
or BIOL UN3052	PROJECT LAB-MOLECULAR GENETICS
or BIOL UN3500	INDEP BIOLOGICAL RESEARCH
or RSRH C0001	FULL-TIME SUMMER RESEARCH PROG

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Biology

The concentration in Biology is only available for students who entered CU in or before the 23-24 academic year.

Students who wish to concentrate in biology must design their programs in advance with a departmental adviser or the director of undergraduate studies.

The requirement for the concentration is 22 points in biology or biochemistry, with at least five courses chosen from the courses listed in the Biological Sciences section of the Bulletin. Additional courses in physics, chemistry, and mathematics are required as detailed below.

Students may not use transfer credits, Barnard courses or courses taken abroad for the biology minor biology course requirements. Please contact Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) regarding using either transfer credits or courses taken while studying abroad to substitute for the general chemistry course requirements.

The requirements for the concentration in biology are as follows:

BIOL UN2005	INTRO BIO I: BIOCHEM, GEN, MOLEC
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BIOL UN2006	INTRO BIO II: CELL BIO, DEV/ PHYS
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Select at least one of the following core courses:

BIOL UN3022	DEVELOPMENTAL BIOLOGY
BIOL UN3031	GENETICS
BIOL UN3041	CELL BIOLOGY

BIOL GU4501	Biochemistry
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or BIOL UN3300	Biochemistry
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BIOL GU4512	Molecular Biology
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Plus additional biology elective courses (see electives listed under biology major) to reach a total of 22 points in biology courses.

No biology lab is required for the concentration. Of the 22 points, a maximum of 5 of the points can come from lab courses. SURF counts as 5 points of lab credit.

Chemistry through organic including labs; see biology major for options

One year of physics, including laboratory; see biology major for options

One year of college-level mathematics (ordinarily this should be calculus); see biology major for options

## BUSINESS MANAGEMENT\*

**\*Business Management is offered exclusively as a concentration.**

### THE MENDELSON CENTER:

Department website: [The Mendelson Center](#)

Faculty Director: Amir Ziv

Program Manager: Jocelyn McArthur-Chouloute

email contact address: [MendelsonCenter@gsb.columbia.edu](mailto:MendelsonCenter@gsb.columbia.edu)

The collaboration between the faculty of Arts and Sciences and Columbia Business School offers students access to the ideas and expertise of the faculty of a top-ranked professional school recognized for its excellence in graduate business education through a series of elective courses. These courses, designed by Business School faculty specifically for undergraduates, build upon the strong liberal arts education at Columbia. Students learn how finance is directly connected to the fundamental principles of economics; that marketing utilizes concepts from psychology; and how management depends upon principles developed in psychology and sociology.

Students can take advantage of the opportunity to enhance their experience by participating in co-curricular activities, such as Business School faculty lecture series, industry panels, informal mentoring/networking activities with MBA students and alumni, in addition to research opportunities with Business School faculty.

This curricular and co-curricular programming capitalizes on the Business School's ability to connect academic theory with real-world practice, providing students with the opportunity to develop key leadership skills, an entrepreneurial mindset, and the ability to innovate.

#### Eligibility:

- To be eligible to earn a Special Program in Business Management, students must apply to the program in the spring semester of their sophomore or junior years, and they must be accepted through a process governed by the Columbia Business School. Beginning with the Special Program cohort of 2017-2018 (i.e., students accepted via the application process of Spring 2017), the program will accept up to 45 qualified candidates each year. The size of the program may be reviewed from time to time by Columbia College and Columbia Business School and adjusted, if desired by both schools.

- For students who entered Columbia College or General Studies in, or before, Fall 2016: Students who have not been accepted into the Special Concentration program may have the option to "shadow" the Special Concentration in Business Management by taking the required courses if space is available in those courses. Students who "shadow" the program will not be given priority registration in any courses that count toward the Special Concentration. If a student is able to take all of the courses and earns a 3.0 or higher grade-point average in the prerequisite, core, and elective courses, she or he will be allowed to declare retroactively the Special Concentration and have the program noted on their transcript.
- The shadowing option is no longer available for students who entered Columbia College or General Studies in, or after, Fall 2017.

## APPLICATION REQUIREMENTS

To apply for the special concentration in business management, students must meet these three requirements:

- Sophomore or junior standing;
- Have a cumulative GPA of 3.4 or higher;
- Have received a B+ or better in at least one, but preferably two, of the following three prerequisite courses, i.e. in statistics, economics, and psychology. Students who completed only one prerequisite at the time of application must be currently enrolled in at least one other; acceptance is conditional on achieving a grade of B+ or higher in the second course.

#### Statistics Prerequisite

Select one of the following:

STAT UN1001	INTRO TO STATISTICAL REASONING
STAT UN1101	INTRODUCTION TO STATISTICS
STAT UN1201	CALC-BASED INTRO TO STATISTICS
PSYC UN1610	STATISTICS-BEHAVIORAL SCIENTISTS
SOCI UN3020	Social Statistics

#### Economics Prerequisite

ECON UN1105	PRINCIPLES OF ECONOMICS
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#### Psychology/Sociology Prerequisite

Select one of the following:

PSYC UN1001	THE SCIENCE OF PSYCHOLOGY
PSYC UN1010	Mind, Brain and Behavior
SOCI UN1000	THE SOCIAL WORLD



## Application Components

1. Application form
2. Current class schedule, including a brief description of how all concentration requirements will be completed
3. Official transcript
4. Resume

## Benefits for Admitted Students

The following benefits are available to students admitted through the application process:

1. Guaranteed enrollment in popular undergraduate business courses (must reserve in advance through program manager);
2. Access to special guest speaker presentations at the Business School, including business leader or faculty presentations exclusively for admitted students;
3. Formal and informal networking opportunities with Business School students, faculty, and alumni.

## CURRENT FACULTY

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

#### Eligibility

To apply for the Special Program in Business Management, students must meet three requirements:

- Be of sophomore or junior standing
- Have a cumulative GPA of 3.4 or higher
- Have received a B+ or better in at least one, but preferably two, prerequisite program courses in the following three required areas: statistics, economics, and psychology. Students who have completed only one prerequisite at the time of application must be currently enrolled in at least one other; acceptance is conditional on achieving a grade of B+ or higher in the second course.

## GUIDELINES FOR ALL BUSINESS MANAGEMENT SPECIAL PROGRAM PARTICIPANTS

The business management special program is not a stand-alone program: it is intended to complement the disciplinary specialization and methodological training inherent in a major. In addition to the special concentration requirements, students must complete a major.

Students who matriculated at Columbia in Fall 2012 and beyond must earn a minimum GPA of 3.0 in prerequisite, core, and elective courses. Students who matriculated before Fall 2012 must either adhere to the above requirement or previous requirement of B+ or better in at least two of the prerequisites and a minimum GPA of 3.0 in core and elective classes.

Students who do not meet course prerequisites or who do not receive a passing grade do not receive credit for that course towards the special program. All courses must be taken for a letter grade. Only prerequisites may be double counted for other majors or programs. The core classes **cannot** be double counted. Electives may be double counted if a student's major allows double counting.

For information about this special concentration, including the application process, visit [Undergraduate Concentration | Columbia Business School Academics](#)

## SPECIAL PROGRAM IN BUSINESS MANAGEMENT

Please read *Guidelines for all Business Management Special Program participants* above.

The requirements for the special program in business management are as follows:

#### **Prerequisites**

Select one of the following Statistics courses:

STAT UN1001	INTRO TO STATISTICAL REASONING
STAT UN1101	INTRODUCTION TO STATISTICS
STAT UN1201	CALC-BASED INTRO TO STATISTICS
PSYC UN1610	STATISTICS-BEHAVIORAL SCIENTISTS
SOCI UN3020	Social Statistics

Select the following Economics course:

ECON UN1105	PRINCIPLES OF ECONOMICS
-------------	-------------------------

Select one of the following Psychology/Sociology courses:

PSYC UN1001	THE SCIENCE OF PSYCHOLOGY
PSYC UN1010	Mind, Brain and Behavior
SOCI UN1000	THE SOCIAL WORLD

#### **Core**

Select one of the following Financial Core courses:

ECON GU4280	CORPORATE FINANCE
BUSI UN3013	FINANCIAL ACCOUNTING

Select two of the following Managerial Core courses:

BUSI UN3701	STRATEGY FORMULATION
BUSI UN3021	MARKETING MANAGEMENT



BUSI UN3703 LEADERSHIP IN ORGANIZATION

**Electives**

Select two of the following courses:

BUSI UN3702	VENTURING TO CHANGE THE WORLD
BUSI UN3704	Making History Through Venturing
ECON UN2257	THE GLOBAL ECONOMY
ECON UN3025	FINANCIAL ECONOMICS
ECON UN3265	MONEY AND BANKING
ECON GU4415	GAME THEORY
ECON BC2010	The Economics of Gender
ECON BC3013	Economic History of the United States
POLS V3615	Globalization and International Politics
PSYC UN2235	THINKING AND DECISION MAKING
PSYC UN2630	SOCIAL PSYCHOLOGY
PSYC UN2640	INTRO TO SOCIAL COGNITION
PSYC UN2650	INTRO TO CULTURAL PSYCHOLOGY
PSYC BC1136	Social Psychology
PSYC BC1138	Social Psychology
PSYC BC2151	ORGANIZATIONAL PSYCHOLOGY
SOCI UN2240	ECONOMY # SOCIETY
SOCI UN3000	SOCIAL THEORY
SOCI UN3265	SOCIOLOGY OF WORK # GENDER
SOCI UN3490	MISTAKE, MISCONDUCT, DISASTER
SOCI W3670	Culture, Markets, and Consumption
SOCI UN3677	The Organization of Diversity
SOCI S3675Q	Organizing Innovation
SOCI G4032	Sociology of Labor Markets
BIOT GU4201	SEM-BIOTECH DEVPT # REGULATION
HIST BC2101	HISTORY OF CAPITALISM
MATH UN3050	DISCRETE TIME MODELS IN FINANC
SDEV UN2320	ECON # FIN MTHDS FOR SDEV
URBS UN3550	Community Building and Economic Development

NOTE: Students may not receive credit for two or more of PSYC BC1136 Social Psychology, *PSYC BC1138 Social Psychology*, and PSYC UN2630 SOCIAL PSYCHOLOGY.

## CHEMICAL PHYSICS

### THE CHEMISTRY DEPARTMENT

Department website: <https://www.chem.columbia.edu/>

Office location: 340 Havemeyer Hall

Office contact: 212-854-6177

Interim Director of Undergraduate Studies: Dr. Vesna Gasperov, 319 Uris; 212-854-2017; [vg2231@columbia.edu](mailto:vg2231@columbia.edu)

### THE STUDY OF CHEMISTRY

Chemistry, the study of molecules, is a central science interesting for its own sake but also necessary as an intellectual link to the other sciences of biology, physics, and environmental science. Faculty find the various disciplines of chemistry fascinating because they establish intellectual bridges between the macroscopic or human-scale world that we see, smell, and touch, and the microscopic world that affects every aspect of our lives. The study of chemistry begins on the microscopic scale and extends to engage a variety of different macroscopic contexts.

Chemistry is currently making its largest impact on society at the nexus between chemistry and biology and the nexus between chemistry and engineering, particularly where new materials are being developed. A typical chemistry laboratory now has more computers than test tubes and no longer smells of rotten eggs.

The chemistry department majors are designed to help students focus on these new developments and to understand the factors influencing the nature of the discipline. Because the science is constantly changing, courses change as well, and while organic and physical chemistry remain the bedrock courses, they too differ greatly from the same courses 40 years ago. Many consider biochemistry to be a foundation course as well. Although different paths within the chemistry major take different trajectories, there is a core that provides the essential foundation students need regardless of the path they choose. Students should consider majoring in chemistry if they share or can develop a fascination with the explanatory power that comes with an advanced understanding of the nature and influence of the microscopic world of molecules.

Students who choose to major in chemistry may elect to continue graduate study in this field and obtain a Ph.D. which is a solid basis for a career in research, either in the industry or in a university. A major in chemistry also provides students with an astonishing range of career choices such as working in the chemical or pharmaceutical industries or in many other businesses where a technical background is highly desirable. Other options include becoming a financial analyst for a technical company, a science writer, a high school chemistry teacher, a patent attorney, an environmental

consultant, or a hospital laboratory manager, among others. The choices are both numerous and various as well as intellectually exciting and personally fulfilling.

## STUDENT ADVISING

### Consulting Advisers

Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu))

### Enrolling in Classes

Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu))

### Preparing for Graduate Study

Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu))

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The department grants advanced placement (AP) credit for a score of 4 or 5 or the equivalent. The amount of credit granted is based on the results of the department assessment exam and completion of the requisite course. Students who register for CHEM UN1604 (2ND TERM GEN CHEM, INTENSIVE) are granted 3 points of credit; students who register for CHEM UN2045 (INTENSIVE ORGANIC CHEMISTRY I-CHEM UN2046 INTENSIVE ORGANIC CHEM II) are granted 6 points of credit. In either case, credit is granted only upon completion of the course with a grade of C or better. Students must complete a department assessment exam prior to registering for either of these courses.

### Transfer Courses

Students who are transferring to Columbia should contact Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) to have any chemistry courses assessed for equivalency. Please email a detailed syllabus and transcript.

### Study Abroad Courses

Chemistry department majors who are planning to study abroad should contact Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) if they wish to study any chemistry abroad.

## UNDERGRADUATE RESEARCH

### Undergraduate Research in Courses

Students can get academic credit for undergraduate research by registering for CHEM UN3098 Supervised Independent Research. Generally, students register for 4 credits as this will fulfill one of the requirements of the Chemistry major. You will be expected to commit the same number of hours to research as you would for any other 4 credit class, around 12-16 hours per week throughout the entire semester. You need to obtain permission from your faculty sponsor and Dr. Gasperov to register for UN3098. At the end of the semester,

you will be required to present a poster of your research results at a poster session for all UN3098 students.

### Undergraduate Research Outside of Courses

Students often ask, why should I do research? Research is exciting! You will design experiments, discover phenomena and make new molecules that no one has ever seen before. Furthermore, there are several practical reasons why you should consider research as an undergraduate student.

Research is a great way to learn more about chemistry. The concepts you learn in the classroom will come to light when you do research. You will also learn more about instrumentation, data analysis, and gain experience in writing reports, preparing posters, and discussing science with your research group members.

Research is a great career builder! Whether you are considering graduate school, professional school, or joining the workforce after graduation, research as an undergraduate will be an invaluable experience that will sharpen your critical thinking and provide you with the unique opportunity to work alongside world-leading faculty, graduate students and post-doctoral fellows.

The faculty in the Department of Chemistry carry out fundamental and applied research at both the core and frontiers of this scientific discipline. There are many opportunities for research during the academic year and in the summer with faculty in the department.

If you are interested in working in a research laboratory, you should take the following steps:

Investigate faculty research projects by using the department's website,

<http://chem.columbia.edu/research/>, or by speaking directly with faculty members.

Decide which faculty research project interests you.

Contact that faculty member directly to inquire about research opportunities within his/her laboratory.

The Program Manager for Undergraduate Studies, Dr. Vesna Gasperov, can assist you with this process.

Qualified students can take the First Year Seminar in Chemical Research course (CHEM UN2408) during the Spring semester in which you will have the opportunity to learn about research conducted within the chemistry department and other science departments in the university. This can help to identify areas of interest that you may not have considered.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Departmental honors are awarded to 10 percent of the graduating majors each year.

To be considered for department honors, students must have a grade point average of at least 3.6 in major courses and have participated in research on a project of high quality.

Biochemistry majors may be considered for Honors in either Chemistry or Biological Sciences.

### Academic Prizes

#### THE THOMAS J. KATZ PRIZE

Established in 2009 by friends and colleagues of Professor Katz, this prize may be awarded to the Columbia College, General Studies, or SEAS student majoring in the chemical sciences who is deemed by the faculty to have demonstrated outstanding achievement as a scholar and as a researcher.

#### THE RICHARD BERSOHN PRIZE

Established in 2009 by Professor Louis Brus, who was a student of Professor Bersohn, this prize may be awarded to the Columbia College, General Studies, or SEAS student majoring in the chemical sciences who is deemed by the faculty to have demonstrated outstanding achievement as a scholar and as a researcher.

## OTHER IMPORTANT INFORMATION

### Track Information

In the first year, Track 1 students with one year of high school chemistry take a one-year course in general chemistry, and the one-term laboratory course that accompanies it. In the second year, students study organic chemistry, and take organic chemistry laboratory.

Students who qualify by prior assessment during orientation week can place into the advanced tracks. There are two options. Track 2 students take, in the fall term, a special one-term intensive course in general chemistry in place of the one-year course. In the second year, students study organic chemistry and take organic chemistry laboratory. Track 3 students take a one-term intensive general chemistry laboratory course in the fall followed by a one-year course in organic chemistry for first-year students. The organic chemistry lecture sequence is taken spring-fall. In the second year, students may enroll in physical chemistry and the organic chemistry laboratory course.

Additional information on the tracks can be found in the *Requirements* section.

### Additional Courses

First-year students may also elect to take CHEM UN2408. This seminar focuses on topics in modern chemistry, and is offered to all students who have taken at least one semester of college chemistry and have an interest in chemical research.

Biochemistry (BIOC GU4501, BIOC GU4512) is recommended for students interested in the biomedical sciences.

Physical chemistry (CHEM UN3079-CHEM UN3080), a one-year program, requires prior preparation in mathematics and physics. The accompanying laboratory is CHEM UN3085-CHEM UN3086.

Also offered are a senior seminar (CHEM UN3920); advanced courses in biochemistry, inorganic, organic, and physical chemistry; and an introduction to research (CHEM UN3098).

### Sample Programs

Some *typical* programs are shown below. Programs are crafted by the student and the Director of Undergraduate Studies and Program Manager to meet individual needs and interests.

### Track 1

#### First Year

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
CHEM UN1500	GENERAL CHEMISTRY LABORATORY
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES

Calculus and physics as required.

#### Second Year

CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

Calculus and physics as required.

#### Third Year

CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES

BIOC GU4501	BIOCHEM I-STRUCTURE/ METABOLISM
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB
CHEM UN3098	SUPERVISED INDEPENDENT RES

**Fourth Year**

CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3920	SENIOR SEMINAR
CHEM GU4071	INORGANIC CHEMISTRY
Advanced courses (4000-level or higher)	

**Track 2****First Year**

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES

Calculus and physics as required.

**Second Year**

CHEM UN2443	ORGANIC CHEMISTRY I- LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II- LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

Calculus and physics as required.

**Third Year**

CHEM UN3079	PHYSICAL CHEMISTRY I- LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II- LECTURES
BIOC GU4501	BIOCHEM I-STRUCTURE/ METABOLISM
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB
CHEM UN3098	SUPERVISED INDEPENDENT RES

**Fourth Year**

CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II

CHEM UN3920	SENIOR SEMINAR
CHEM GU4071	INORGANIC CHEMISTRY
Advanced courses (4000- level or higher)	

**Track 3****First Year**

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES

Calculus and Physics as required.

**Second Year**

CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR
CHEM UN3079	PHYSICAL CHEMISTRY I- LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II- LECTURES
CHEM UN2545	INTENSIVE ORGANIC CHEM LAB
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB

Calculus and physics as required.

**Third Year**

BIOC GU4501	BIOCHEM I-STRUCTURE/ METABOLISM
CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3098	SUPERVISED INDEPENDENT RES
CHEM GU4071	INORGANIC CHEMISTRY

**Fourth Year**

CHEM UN3920	SENIOR SEMINAR
Advanced courses (4000-level or higher)	

**PROFESSORS**

Luis Campos  
 Virginia W. Cornish  
 Richard A. Friesner  
 Ruben Gonzalez  
 Laura Kaufman  
 James L. Leighton  
 Ann E. McDermott  
 Wei Min  
 Jack R. Norton  
 Colin Nuckolls  
 Gerard Parkin



David R. Reichman  
Tomislav Rovis  
Dalibor Sames  
Brent Stockwell  
James J. Valentini  
Latha Venkataraman  
Xiaoyang Zhu

## ASSOCIATE PROFESSORS

Timothy Berkelbach  
Angelo Cacciuto  
Jonathan Owen  
Xavier Roy

## ASSISTANT PROFESSORS

Milan Delor  
Neel Shah  
Makeda Tekle-Smith

## SENIOR LECTURERS

Luis Avila  
Anna Ghurbanyan  
Sarah Hansen  
Fay Ng  
Joseph Ulichny

## LECTURERS

Robert Beer  
John Decatur  
Charles E. Doubleday  
Christopher Eckdahl  
Ruben Savizky  
Talha Siddiqui

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

The Department of Chemistry offers four distinct academic major programs for undergraduates interested in professional-level training and education in the chemical sciences: chemistry, chemical physics, biochemistry and environmental chemistry. For students interested in a program of less extensive study and coursework, the department offers a concentration in chemistry.

In the first year, Track 1 students with one year of high school chemistry take a one-year course in general chemistry, and the one-term laboratory course that accompanies it. In the second year, students study organic chemistry, and take organic chemistry laboratory.

Students who qualify by prior assessment during orientation week can place into the advanced tracks. There are two options. Track 2 students take, in the fall term, a special one-term intensive course in general chemistry in place of the one-year course. In the second year, students study organic chemistry and take organic chemistry laboratory. Track 3 students take a one-year course in organic chemistry for first-year students and the one-term intensive general chemistry laboratory course. In the second year, students may enroll in physical chemistry and the organic chemistry laboratory course.

The results of the department assessment exam are used to advise students which track to pursue. The Department of Chemistry offers three different tracks. Students who wish to take Track 2 or 3 classes must take the department assessment exam. Students who wish to pursue Track 1 classes do not need to take the assessment exam.

Additional information on the tracks can be found in the Requirements section.

### Guidance for Transfer Students

Students who are transferring to Columbia should contact Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) to have any chemistry courses assessed for equivalency. Please email a detailed syllabus and transcript.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

Students majoring in chemistry or in one of the interdepartmental majors in chemistry should go to the director of undergraduate studies or the undergraduate program manager in the Department of Chemistry to discuss their program of study. Chemistry majors and interdepartmental majors usually postpone part of the Core Curriculum beyond the sophomore year.

#### Chemistry Tracks

All students who wish to start with Track 2 or 3 courses must take an assessment during orientation week ahead of fall semester. The results of the assessment are used to advise students which track to pursue. Unless otherwise specified below, all students must complete one of the following tracks:

#### Track 1

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES



CHEM UN1500	GENERAL CHEMISTRY LABORATORY
CHEM UN2443	ORGANIC CHEMISTRY I- LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II- LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

### Track 2

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
or CHEM UN1507	INTENSVE GENERAL CHEMISTRY- LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN2443	ORGANIC CHEMISTRY I- LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II- LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

### Track 3

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR
CHEM UN2545	INTENSIVE ORGANIC CHEM LAB

### Physics Sequences

Unless otherwise specified below, all students must complete one of the following sequences:

#### Sequence A

For students with limited background in high school physics:

PHYS UN1401	INTRO TO MECHANICS # THERMO
PHYS UN1402	INTRO ELEC/MAGNETISM # OPTCS
PHYS UN1403	INTRO-CLASSCL # QUANTUM WAVES

For chemistry majors, the following laboratory courses are recommended, NOT required. For chemical physics majors, ONE of the following laboratory courses are required:

PHYS UN1494	INTRO TO EXPERIMENTAL PHYS-LAB
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PHYS UN3081	INTERMEDIATE LABORATORY WORK
-------------	---------------------------------

#### Sequence B

PHYS UN1601	PHYSICS I:MECHANICS/ RELATIVITY
PHYS UN1602	PHYSICS II: THERMO, ELEC # MAG
PHYS UN2601	PHYSICS III:CLASS/ QUANTUM WAVE

For chemistry majors, the following laboratory course is recommended NOT required. For chemical physics majors, the following laboratory course is required:

PHYS UN3081	INTERMEDIATE LABORATORY WORK
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#### Sequence C

For students with advanced preparation in physics and mathematics:

PHYS UN2801 & PHYS UN2802	ACCELERATED PHYSICS I and ACCELERATED PHYSICS II
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For chemistry majors, the following laboratory course is recommended NOT required. For chemical physics majors, the following laboratory course is required:

PHYS UN3081	INTERMEDIATE LABORATORY WORK
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## Major in Chemistry

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES (Recommended NOT required)
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CHEM UN3079	PHYSICAL CHEMISTRY I- LECTURES
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CHEM UN3080	PHYSICAL CHEMISTRY II- LECTURES
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CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
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CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
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CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB
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CHEM UN3920	SENIOR SEMINAR
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CHEM GU4071	INORGANIC CHEMISTRY
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Select one course from the following:

CHEM UN3098	SUPERVISED INDEPENDENT RES
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OR Chemistry courses numbered CHEM GU4000 or above for 2 credit points or more

### Physics

Select one of the physics sequences outlined above in the Guidelines section.

### Mathematics

Select one of the following sequences:

Four semesters of calculus:

MATH UN1101      CALCULUS I  
& MATH UN1102      and CALCULUS II  
& MATH UN1201      and CALCULUS III  
& MATH UN1202      and CALCULUS IV

Two semesters of honors mathematics:

MATH UN1207      HONORS MATHEMATICS A  
& MATH UN1208      and HONORS  
MATHEMATICS B

## Major in Biochemistry

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM UN2408      1ST YEAR SEM IN  
CHEMICAL RES  
(Recommended NOT required)

CHEM UN3079      PHYSICAL CHEMISTRY I-  
LECTURES

CHEM UN3080      PHYSICAL CHEMISTRY II-  
LECTURES

### Biology

BIOL UN1908      First Year Seminar in Biology  
(Recommended NOT required)

BIOL UN2005      INTRO BIO I:  
BIOCHEM,GEN,MOLEC

BIOL UN2006      INTRO BIO II:CELL BIO,DEV/  
PHYS

BIOC GU4501      BIOCHEM I-STRUCTURE/  
METABOLISM  
or BIOC UN3300      BIOCHEMISTRY

BIOC GU4512      MOLECULAR BIOLOGY

### Physics

Select one of the following physics sequences:

Sequence A:

PHYS UN1201      GENERAL PHYSICS I  
& PHYS UN1202      and GENERAL PHYSICS II

Sequence B:

PHYS UN1401  
& PHYS UN1402  
& PHYS UN1403

INTRO TO MECHANICS #  
THERMO  
and INTRO ELEC/  
MAGNETISM # OPTCS  
and INTRO-CLASSCL  
# QUANTUM WAVES  
(PHYS UN1403 is recommended  
NOT required)

Sequence C:

PHYS UN1601      PHYSICS I:MECHANICS/  
& PHYS UN1602      RELATIVITY  
& PHYS UN2601      and PHYSICS II: THERMO,  
ELEC # MAG  
and PHYSICS III:CLASS/  
QUANTUM WAVE  
(PHYS UN2601 is recommended  
but not required)

Sequence D:

PHYS UN2801      ACCELERATED PHYSICS I  
& PHYS UN2802      and ACCELERATED  
PHYSICS II

### Mathematics

Select one of the following sequences:

Two semesters of calculus:

MATH UN1101      CALCULUS I  
& MATH UN1102      and CALCULUS II  
& MATH UN1201      and CALCULUS III  
& MATH UN1202      and CALCULUS IV

Two semesters of honors mathematics:

MATH UN1207      HONORS MATHEMATICS A  
& MATH UN1208      and HONORS  
MATHEMATICS B

AP credit and one term of calculus (Calculus II or higher)

### Additional Courses

Select two of the following upper level laboratory courses (one must be a Biology lab):

BIOL UN2501      CONTEMPORARY BIOLOGY  
& BIOL UN3040      LAB  
and LAB IN MOLECULAR  
BIOLOGY (A 3 pt. Barnard lab  
course, with permission from Bio  
advisor)

BIOL UN3052      PROJECT LAB-MOLECULAR  
GENETICS

BIOL UN3058      PROJECT LAB IN  
MICROBIOLOGY

BIOL UN3500      INDEP BIOLOGICAL  
RESEARCH

CHEM UN3085      PHYSICL-ANALYTICL  
LABORATORY I

CHEM UN3086      PHYSICL-ANALYTCL  
LABORATORY II

CHEM UN3098      SUPERVISED INDEPENDENT  
RES

CHEM UN3546      ADVANCED ORGANIC  
CHEMISTRY LAB

Select any three courses from the following:

CHEM GU4071	INORGANIC CHEMISTRY
CHEM GU4102	CHEMISTRY FOR THE BRAIN
CHEM GU4103	ORGANOMETALLIC CHEMISTRY
CHEM GU4147	ADVANCED ORGANIC CHEMISTRY I
CHEM GU4312	CHEMICAL BIOLOGY
CHEM GU4313	Peptide and Protein Chemistry
BIOC GU4323	Biophysical Chemistry I
BIOC GU4324	Biophysical Chemistry II
MATH UN3027 or MATH UN2030	Ordinary Differential Equations ORDINARY DIFFERENTIAL EQUATIONS
One additional semester of calculus	
One additional semester of honors math:	
MATH UN1207 or MATH UN1208	HONORS MATHEMATICS A HONORS MATHEMATICS B
Any biology course at the 3000/4000 level for 3 or more points. The following are recommended:	
BIOL UN3004 or BIOL UN3005	NEUROBIO I:CELLULAR # MOLECU LR NEUROBIO II: DEVPT # SYSTEMS
BIOL UN3008	The Cellular Physiology of Disease
BIOL UN3022	DEVELOPMENTAL BIOLOGY
BIOL UN3034	Biotechnology
BIOL UN3041	CELL BIOLOGY
BIOL UN3073	CELLULAR/MOLECULAR IMMUNOLOGY
BIOL GU4065	Molecular Biology of Disease
BIOL GU4300	DRUGS AND DISEASE

## Major in Chemical Physics

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3920	SENIOR SEMINAR
CHEM GU4221 or PHYS GU4021	QUANTUM CHEMISTRY I QUANTUM MECHANICS I

### Physics

Select one of the physics sequences outlined above in *Guidelines for all Chemistry Majors, Concentrators and Interdepartmental Majors*. For the chemical physics major, one lab **MUST** be completed for the sequence chosen.

Complete the following lectures:

PHYS UN3003	MECHANICS
PHYS UN3007	ELECTRICITY-MAGNETISM
PHYS UN3008	ELECTROMAGNETIC WAVES # OPTICS

### Mathematics

Select one of the following sequences:

Four semesters of calculus:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV
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Two semesters of honors mathematics:

MATH UN1207 & MATH UN1208 & MATH UN3027	HONORS MATHEMATICS A and HONORS MATHEMATICS B and Ordinary Differential Equations
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Two semesters of advanced calculus:

MATH UN1202 & MATH UN3027	CALCULUS IV and Ordinary Differential Equations
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## Major in Environmental Chemistry

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

A second semester of Organic Chemistry lecture is recommended NOT required.

CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM GU4071	INORGANIC CHEMISTRY
The following courses are recommended NOT required:	
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES
CHEM UN3920	SENIOR SEMINAR

### Earth and Environmental Science

Select two of the following three courses:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

Additional course required:

EESC UN3101	Geochemistry for a Habitable Planet
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Select one of the following labs:

EESC BC3016	ENVIRONMENTAL MEASUREMENTS
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CHEM UN3085	PHYSICL-ANALYTICAL LABORATORY I
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Select one option for Independent Research in Environmental Chemistry:

EESC BC3800 & EESC BC3801	ENVIR SCIENCE SENIOR SEMINAR and ENVIR SCIENCE SENIOR SEM II
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CHEM UN3098	SUPERVISED INDEPENDENT RES (It is strongly recommended to take CHEM UN3920 if taking CHEM UN3098)
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### Physics

Select one of the following physics sequences:

Sequence A:

PHYS UN1201 & PHYS UN1202	GENERAL PHYSICS I and GENERAL PHYSICS II
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Sequence B:

PHYS UN1401 & PHYS UN1402 & PHYS UN1403	INTRO TO MECHANICS # THERMO and INTRO ELEC/ MAGNETISM # OPTICS and INTRO-CLASSICAL # QUANTUM WAVES (Recommended NOT required)
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Sequence C:

PHYS UN1601 & PHYS UN1602 & PHYS UN2601	PHYSICS I:MECHANICS/ RELATIVITY and PHYSICS II: THERMO, ELEC # MAG and PHYSICS III:CLASSICAL/ QUANTUM WAVE (Recommended, not required)
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Sequence D:

PHYS UN2801 & PHYS UN2802	ACCELERATED PHYSICS I and ACCELERATED PHYSICS II
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### Mathematics

Two semesters of calculus:

MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II
MATH UN1201	CALCULUS III
MATH UN1202	CALCULUS IV

### Additional Courses

Select any two of the following:

#### Chemistry:

CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
CHEM GU4103	ORGANOMETALLIC CHEMISTRY

CHEM GU4147	ADVANCED ORGANIC CHEMISTRY I
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### Earth and Environmental Science:

EESC BC3017	ENVIRONMENTAL DATA ANALYSIS
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EESC BC3025	HYDROLOGY
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EESC GU4008	Introduction to Atmospheric Science
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EESC GU4009	CHEMICAL GEOLOGY
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EESC GU4040	CLIM THERMODYN/ENERGY TRANSFER
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EESC GU4050	GLOBAL ASSMT-REMOTE SENSING
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EESC GU4600	EARTH RESOURCES # SUSTAIN DEV
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EESC GU4835	Wetlands and Climate Change
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EESC GU4885	CHEMISTRY OF CONTINENTAL WATERS
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EESC GU4888	Stable Isotope Geochemistry
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EESC GU4924	INTRO TO ATMOSPHERIC CHEMISTRY
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EESC GU4925	INTRO TO PHYSICAL OCEANOGRAPHY
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EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY
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### Earth and Environmental Engineering:

EAEE E4001	INDUST ECOLOGY-EARTH RESOURCES
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EAEE E4003	AQUATIC CHEMISTRY
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### Mathematics:

One additional semester of calculus

## Minor in Chemistry

Students should select one of the following tracks:

### Track 1

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
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CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
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CHEM UN1500	GENERAL CHEMISTRY LABORATORY
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CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
-------------	------------------------------

### Track 2

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
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or CHEM UN1507 INTENSIVE GENERAL CHEMISTRY-LAB

CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
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CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
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**Track 3**

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR

Select an additional two classes from the following options:

CHEM UN2444	ORGANIC CHEMSTRY II-LECTURES
CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
CHEM GU4071	INORGANIC CHEMISTRY
BIOC GU4501	BIOCHEM I-STRUCTURE/METABOLISM

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Chemistry

No more than four points of CHEM UN3098 SUPERVISED INDEPENDENT RES may be counted toward the concentration.

Select one of the three chemistry tracks listed below.

PHYS UN1201 & PHYS UN1202	GENERAL PHYSICS I and GENERAL PHYSICS II
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Two semesters of calculus

### Chemistry Tracks

**Track 1**

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
CHEM UN1500	GENERAL CHEMISTRY LABORATORY

Select 22 points of chemistry at the 2000-level or higher (excluding CHEM UN2408).

**Track 2**

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
or CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB

CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
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Select 22 points of chemistry at the 2000-level or higher (excluding CHEM UN2408).

**Track 3**

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR

Select 18 points of chemistry at the 2000-level or higher (excluding CHEM UN2408).

## CHEMISTRY

### THE CHEMISTRY DEPARTMENT

Department website: <https://www.chem.columbia.edu/>

Office location: 340 Havemeyer Hall

Office contact: 212-854-6177

Interim Director of Undergraduate Studies: Dr. Vesna Gasperov, 319 Uris; 212-854-2017; vg2231@columbia.edu

## THE STUDY OF CHEMISTRY

Chemistry, the study of molecules, is a central science interesting for its own sake but also necessary as an intellectual link to the other sciences of biology, physics, and environmental science. Faculty find the various disciplines of chemistry fascinating because they establish intellectual bridges between the macroscopic or human-scale world that we see, smell, and touch, and the microscopic world that affects every aspect of our lives. The study of chemistry begins on the microscopic scale and extends to engage a variety of different macroscopic contexts.

Chemistry is currently making its largest impact on society at the nexus between chemistry and biology and the nexus between chemistry and engineering, particularly where new materials are being developed. A typical chemistry laboratory now has more computers than test tubes and no longer smells of rotten eggs.

The chemistry department majors are designed to help students focus on these new developments and to understand the factors influencing the nature of the discipline. Because the science is constantly changing, courses change as well, and while organic and physical chemistry remain the bedrock courses, they too differ greatly from the same courses 40 years ago. Many consider biochemistry to be a foundation course as well. Although different paths within the chemistry major take different trajectories, there is a core that provides the essential foundation students need regardless of the



path they choose. Students should consider majoring in chemistry if they share or can develop a fascination with the explanatory power that comes with an advanced understanding of the nature and influence of the microscopic world of molecules.

Students who choose to major in chemistry may elect to continue graduate study in this field and obtain a Ph.D. which is a solid basis for a career in research, either in the industry or in a university. A major in chemistry also provides students with an astonishing range of career choices such as working in the chemical or pharmaceutical industries or in many other businesses where a technical background is highly desirable. Other options include becoming a financial analyst for a technical company, a science writer, a high school chemistry teacher, a patent attorney, an environmental consultant, or a hospital laboratory manager, among others. The choices are both numerous and various as well as intellectually exciting and personally fulfilling.

## STUDENT ADVISING

### Consulting Advisers

Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu))

### Enrolling in Classes

Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu))

### Preparing for Graduate Study

Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu))

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The department grants advanced placement (AP) credit for a score of 4 or 5 or the equivalent. The amount of credit granted is based on the results of the department assessment exam and completion of the requisite course. Students who register for CHEM UN1604 (2ND TERM GEN CHEM, INTENSIVE) are granted 3 points of credit; students who register for CHEM UN2045 (INTENSIVE ORGANIC CHEMISTRY I-CHEM UN2046 INTENSIVE ORGANIC CHEM II) are granted 6 points of credit. In either case, credit is granted only upon completion of the course with a grade of C or better. Students must complete a department assessment exam prior to registering for either of these courses.

### Transfer Courses

Students who are transferring to Columbia should contact Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) to have any chemistry courses assessed for equivalency. Please email a detailed syllabus and transcript.

## Study Abroad Courses

Chemistry department majors who are planning to study abroad should contact Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) if they wish to study any chemistry abroad.

## UNDERGRADUATE RESEARCH

### Undergraduate Research in Courses

Students can get academic credit for undergraduate research by registering for CHEM UN3098 Supervised Independent Research. Generally, students register for 4 credits as this will fulfill one of the requirements of the Chemistry major. You will be expected to commit the same number of hours to research as you would for any other 4 credit class, around 12-16 hours per week throughout the entire semester. You need to obtain permission from your faculty sponsor and Dr. Gasperov to register for UN3098. At the end of the semester, you will be required to present a poster of your research results at a poster session for all UN3098 students.

### Undergraduate Research Outside of Courses

Students often ask, why should I do research? Research is exciting! You will design experiments, discover phenomena and make new molecules that no one has ever seen before. Furthermore, there are several practical reasons why you should consider research as an undergraduate student.

Research is a great way to learn more about chemistry. The concepts you learn in the classroom will come to light when you do research. You will also learn more about instrumentation, data analysis, and gain experience in writing reports, preparing posters, and discussing science with your research group members.

Research is a great career builder! Whether you are considering graduate school, professional school, or joining the workforce after graduation, research as an undergraduate will be an invaluable experience that will sharpen your critical thinking and provide you with the unique opportunity to work alongside world-leading faculty, graduate students and post-doctoral fellows.

The faculty in the Department of Chemistry carry out fundamental and applied research at both the core and frontiers of this scientific discipline. There are many opportunities for research during the academic year and in the summer with faculty in the department.

If you are interested in working in a research laboratory, you should take the following steps:

Investigate faculty research projects by using the department's website,

<http://chem.columbia.edu/research/>, or by speaking directly with faculty members.

Decide which faculty research project interests you.

Contact that faculty member directly to inquire about research opportunities within his/her laboratory.

The Program Manager for Undergraduate Studies, Dr. Vesna Gasperov, can assist you with this process.

Qualified students can take the First Year Seminar in Chemical Research course (CHEM UN2408) during the Spring semester in which you will have the opportunity to learn about research conducted within the chemistry department and other science departments in the university. This can help to identify areas of interest that you may not have considered.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Departmental honors are awarded to 10 percent of the graduating majors each year.

To be considered for department honors, students must have a grade point average of at least 3.6 in major courses and have participated in research on a project of high quality.

Biochemistry majors may be considered for Honors in either Chemistry or Biological Sciences.

### Academic Prizes

#### THE THOMAS J. KATZ PRIZE

Established in 2009 by friends and colleagues of Professor Katz, this prize may be awarded to the Columbia College, General Studies, or SEAS student majoring in the chemical sciences who is deemed by the faculty to have demonstrated outstanding achievement as a scholar and as a researcher.

#### THE RICHARD BERSOHN PRIZE

Established in 2009 by Professor Louis Brus, who was a student of Professor Bersohn, this prize may be awarded to the Columbia College, General Studies, or SEAS student majoring in the chemical sciences who is deemed by the faculty to have demonstrated outstanding achievement as a scholar and as a researcher.

## OTHER IMPORTANT INFORMATION

### Track Information

In the first year, Track 1 students with one year of high school chemistry take a one-year course in general chemistry, and the one-term laboratory course that accompanies it. In the second year, students study organic chemistry, and take organic chemistry laboratory.

Students who qualify by prior assessment during orientation week can place into the advanced tracks. There are two options. Track 2 students take, in the fall term, a special one-term intensive course in general chemistry in place of the one-year course. In the second year, students study organic chemistry and take organic chemistry laboratory. Track 3 students take a one-term intensive general chemistry laboratory course in the fall followed by a one-year course in organic chemistry for first-year students. The organic chemistry lecture sequence is taken spring-fall. In the second year, students may enroll in physical chemistry and the organic chemistry laboratory course.

Additional information on the tracks can be found in the *Requirements* section.

### Additional Courses

First-year students may also elect to take CHEM UN2408. This seminar focuses on topics in modern chemistry, and is offered to all students who have taken at least one semester of college chemistry and have an interest in chemical research.

Biochemistry (BIOC GU4501, BIOC GU4512) is recommended for students interested in the biomedical sciences.

Physical chemistry (CHEM UN3079-CHEM UN3080), a one-year program, requires prior preparation in mathematics and physics. The accompanying laboratory is CHEM UN3085-CHEM UN3086.

Also offered are a senior seminar (CHEM UN3920); advanced courses in biochemistry, inorganic, organic, and physical chemistry; and an introduction to research (CHEM UN3098).

### Sample Programs

Some *typical* programs are shown below. Programs are crafted by the student and the Director of Undergraduate Studies and Program Manager to meet individual needs and interests.

### Track 1

#### First Year

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
CHEM UN1500	GENERAL CHEMISTRY LABORATORY
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES

Calculus and physics as required.

**Second Year**

CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

Calculus and physics as required.

**Third Year**

CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
BIOC GU4501	BIOCHEM I-STRUCTURE/METABOLISM
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB
CHEM UN3098	SUPERVISED INDEPENDENT RES

**Fourth Year**

CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3920	SENIOR SEMINAR
CHEM GU4071	INORGANIC CHEMISTRY

Advanced courses (4000-level or higher)

**Track 2****First Year**

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES

Calculus and physics as required.

**Second Year**

CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

Calculus and physics as required.

**Third Year**

CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
BIOC GU4501	BIOCHEM I-STRUCTURE/METABOLISM
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB
CHEM UN3098	SUPERVISED INDEPENDENT RES

**Fourth Year**

CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3920	SENIOR SEMINAR
CHEM GU4071	INORGANIC CHEMISTRY

Advanced courses (4000- level or higher)

**Track 3****First Year**

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES

Calculus and Physics as required.

**Second Year**

CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR
CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
CHEM UN2545	INTENSIVE ORGANIC CHEM LAB
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB

Calculus and physics as required.

**Third Year**

BIOC GU4501	BIOCHEM I-STRUCTURE/METABOLISM
CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3098	SUPERVISED INDEPENDENT RES

CHEM GU4071 INORGANIC CHEMISTRY

#### Fourth Year

CHEM UN3920 SENIOR SEMINAR

Advanced courses (4000-level or higher)

### PROFESSORS

Luis Campos  
Virginia W. Cornish  
Richard A. Friesner  
Ruben Gonzalez  
Laura Kaufman  
James L. Leighton  
Ann E. McDermott  
Wei Min  
Jack R. Norton  
Colin Nuckolls  
Gerard Parkin  
David R. Reichman  
Tomislav Rovis  
Dalibor Sames  
Brent Stockwell  
James J. Valentini  
Latha Venkataraman  
Xiaoyang Zhu

### ASSOCIATE PROFESSORS

Timothy Berkelbach  
Angelo Cacciuto  
Jonathan Owen  
Xavier Roy

### ASSISTANT PROFESSORS

Milan Delor  
Neel Shah  
Makeda Tekle-Smith

### SENIOR LECTURERS

Luis Avila  
Anna Ghurbanyan  
Sarah Hansen  
Fay Ng  
Joseph Ulichny

### LECTURERS

Robert Beer  
John Decatur  
Charles E. Doubleday  
Christopher Eckdahl  
Ruben Savizky  
Talha Siddiqui

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

The Department of Chemistry offers four distinct academic major programs for undergraduates interested in professional-level training and education in the chemical sciences: chemistry, chemical physics, biochemistry and environmental chemistry. For students interested in a program of less extensive study and coursework, the department offers a concentration in chemistry.

In the first year, Track 1 students with one year of high school chemistry take a one-year course in general chemistry, and the one-term laboratory course that accompanies it. In the second year, students study organic chemistry, and take organic chemistry laboratory.

Students who qualify by prior assessment during orientation week can place into the advanced tracks. There are two options. Track 2 students take, in the fall term, a special one-term intensive course in general chemistry in place of the one-year course. In the second year, students study organic chemistry and take organic chemistry laboratory. Track 3 students take a one-year course in organic chemistry for first-year students and the one-term intensive general chemistry laboratory course. In the second year, students may enroll in physical chemistry and the organic chemistry laboratory course.

The results of the department assessment exam are used to advise students which track to pursue. The Department of Chemistry offers three different tracks. Students who wish to take Track 2 or 3 classes must take the department assessment exam. Students who wish to pursue Track 1 classes do not need to take the assessment exam.

Additional information on the tracks can be found in the Requirements section.

### Guidance for Transfer Students

Students who are transferring to Columbia should contact Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) to have any chemistry courses assessed for equivalency. Please email a detailed syllabus and transcript.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

Students majoring in chemistry or in one of the interdepartmental majors in chemistry should go to the director of undergraduate studies or the undergraduate

program manager in the Department of Chemistry to discuss their program of study. Chemistry majors and interdepartmental majors usually postpone part of the Core Curriculum beyond the sophomore year.

### **Chemistry Tracks**

All students who wish to start with Track 2 or 3 courses must take an assessment during orientation week ahead of fall semester. The results of the assessment are used to advise students which track to pursue. Unless otherwise specified below, all students must complete one of the following tracks:

#### **Track 1**

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
CHEM UN1500	GENERAL CHEMISTRY LABORATORY
CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

#### **Track 2**

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
or CHEM UN1507	INTENSIVE GENERAL CHEMISTRY-LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

#### **Track 3**

CHEM UN1507	INTENSIVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSIVE ORGANIC CHEMISTRY
CHEM UN2046	INTENSIVE ORG CHEM-FOR 1ST YEAR
CHEM UN2545	INTENSIVE ORGANIC CHEM LAB

### **Physics Sequences**

Unless otherwise specified below, all students must complete one of the following sequences:

#### **Sequence A**

For students with limited background in high school physics:

PHYS UN1401	INTRO TO MECHANICS # THERMO
PHYS UN1402	INTRO ELEC/MAGNETISM # OPTICS
PHYS UN1403	INTRO-CLASSCL # QUANTUM WAVES
For chemistry majors, the following laboratory courses are recommended, NOT required. For chemical physics majors, ONE of the following laboratory courses are required:	
PHYS UN1494	INTRO TO EXPERIMENTAL PHYS-LAB
PHYS UN3081	INTERMEDIATE LABORATORY WORK

#### **Sequence B**

PHYS UN1601	PHYSICS I:MECHANICS/RELATIVITY
PHYS UN1602	PHYSICS II: THERMO, ELEC # MAG
PHYS UN2601	PHYSICS III:CLASS/QUANTUM WAVE
For chemistry majors, the following laboratory course is recommended NOT required. For chemical physics majors, the following laboratory course is required:	
PHYS UN3081	INTERMEDIATE LABORATORY WORK

#### **Sequence C**

For students with advanced preparation in physics and mathematics:

PHYS UN2801 & PHYS UN2802	ACCELERATED PHYSICS I and ACCELERATED PHYSICS II
For chemistry majors, the following laboratory course is recommended NOT required. For chemical physics majors, the following laboratory course is required:	
PHYS UN3081	INTERMEDIATE LABORATORY WORK

### **Major in Chemistry**

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

#### **Chemistry**

Select one of the chemistry tracks outlined above.



CHEM UN2408 1ST YEAR SEM IN  
CHEMICAL RES  
(Recommended NOT required)

CHEM UN3079 PHYSICAL CHEMISTRY I-  
LECTURES

CHEM UN3080 PHYSICAL CHEMISTRY II-  
LECTURES

CHEM UN3085 PHYSICL-ANALYTICL  
LABORATORY I

CHEM UN3086 PHYSICL-ANALYTCL  
LABORATORY II

CHEM UN3546 ADVANCED ORGANIC  
CHEMISTRY LAB

CHEM UN3920 SENIOR SEMINAR

CHEM GU4071 INORGANIC CHEMISTRY

Select one course from the following:

CHEM UN3098 SUPERVISED INDEPENDENT  
RES

OR Chemistry courses numbered CHEM GU4000 or  
above for 2 credit points or more

### Physics

Select one of the physics sequences outlined above in the  
Guidelines section.

### Mathematics

Select one of the following sequences:

Four semesters of calculus:

MATH UN1101 CALCULUS I  
& MATH UN1102 and CALCULUS II  
& MATH UN1201 and CALCULUS III  
& MATH UN1202 and CALCULUS IV

Two semesters of honors mathematics:

MATH UN1207 HONORS MATHEMATICS A  
& MATH UN1208 and HONORS  
MATHEMATICS B

## Major in Biochemistry

Select one of the tracks outlined above in *Guidelines for all  
Chemistry Majors, Concentrators, and Interdepartmental  
Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM UN2408 1ST YEAR SEM IN  
CHEMICAL RES  
(Recommended NOT required)

CHEM UN3079 PHYSICAL CHEMISTRY I-  
LECTURES

CHEM UN3080 PHYSICAL CHEMISTRY II-  
LECTURES

### Biology

BIOL UN1908 First Year Seminar in Biology  
(Recommended NOT required)

BIOL UN2005 INTRO BIO I:  
BIOCHEM,GEN,MOLEC

BIOL UN2006 INTRO BIO II:CELL BIO,DEV/  
PHYS

BIOC GU4501 BIOCHEM I-STRUCTURE/  
METABOLISM

or BIOC UN3300 BIOCHEMISTRY

BIOC GU4512 MOLECULAR BIOLOGY

### Physics

Select one of the following physics sequences:

Sequence A:

PHYS UN1201 GENERAL PHYSICS I  
& PHYS UN1202 and GENERAL PHYSICS II

Sequence B:

PHYS UN1401 INTRO TO MECHANICS #  
& PHYS UN1402 THERMO  
& PHYS UN1403 and INTRO ELEC/  
MAGNETISM # OPTCS  
and INTRO-CLASSCL  
# QUANTUM WAVES  
(PHYS UN1403 is recommended  
NOT required)

Sequence C:

PHYS UN1601 PHYSICS I:MECHANICS/  
& PHYS UN1602 RELATIVITY  
& PHYS UN2601 and PHYSICS II: THERMO,  
ELEC # MAG  
and PHYSICS III:CLASS/  
QUANTUM WAVE  
(PHYS UN2601 is recommended  
but not required)

Sequence D:

PHYS UN2801 ACCELERATED PHYSICS I  
& PHYS UN2802 and ACCELERATED  
PHYSICS II

### Mathematics

Select one of the following sequences:

Two semesters of calculus:

MATH UN1101 CALCULUS I  
& MATH UN1102 and CALCULUS II  
& MATH UN1201 and CALCULUS III  
& MATH UN1202 and CALCULUS IV

Two semesters of honors mathematics:

MATH UN1207 HONORS MATHEMATICS A  
& MATH UN1208 and HONORS  
MATHEMATICS B

AP credit and one term of calculus (Calculus II or  
higher)

### Additional Courses

Select two of the following upper level laboratory courses  
(one must be a Biology lab):

BIOL UN2501 CONTEMPORARY BIOLOGY  
& BIOL UN3040 LAB  
and LAB IN MOLECULAR  
BIOLOGY (A 3 pt. Barnard lab  
course, with permission from Bio  
advisor)

BIOL UN3052 PROJECT LAB-MOLECULAR  
GENETICS

BIOL UN3058	PROJECT LAB IN MICROBIOLOGY
BIOL UN3500	INDEP BIOLOGICAL RESEARCH
CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3098	SUPERVISED INDEPENDENT RES
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB
Select any three courses from the following:	
CHEM GU4071	INORGANIC CHEMISTRY
CHEM GU4102	CHEMISTRY FOR THE BRAIN
CHEM GU4103	ORGANOMETALLIC CHEMISTRY
CHEM GU4147	ADVANCED ORGANIC CHEMISTRY I
CHEM GU4312	CHEMICAL BIOLOGY
CHEM GU4313	Peptide and Protein Chemistry
BIOC GU4323	Biophysical Chemistry I
BIOC GU4324	Biophysical Chemistry II
MATH UN3027	Ordinary Differential Equations
or MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
One additional semester of calculus	
One additional semester of honors math:	
MATH UN1207	HONORS MATHEMATICS A
or MATH UN1208	HONORS MATHEMATICS B
Any biology course at the 3000/4000 level for 3 or more points. The following are recommended:	
BIOL UN3004	NEUROBIO I:CELLULAR # MOLEULR
or BIOL UN3005	NEUROBIO II: DEVPT # SYSTEMS
BIOL UN3008	The Cellular Physiology of Disease
BIOL UN3022	DEVELOPMENTAL BIOLOGY
BIOL UN3034	Biotechnology
BIOL UN3041	CELL BIOLOGY
BIOL UN3073	CELLULAR/MOLECULAR IMMUNOLOGY
BIOL GU4065	Molecular Biology of Disease
BIOL GU4300	DRUGS AND DISEASE

## Major in Chemical Physics

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM UN3079	PHYSICAL CHEMISTRY I- LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II- LECTURES
CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3920	SENIOR SEMINAR
CHEM GU4221	QUANTUM CHEMISTRY I
or PHYS GU4021	QUANTUM MECHANICS I

### Physics

Select one of the physics sequences outlined above in *Guidelines for all Chemistry Majors, Concentrators and Interdepartmental Majors*. For the chemical physics major, one lab MUST be completed for the sequence chosen.

Complete the following lectures:

PHYS UN3003	MECHANICS
PHYS UN3007	ELECTRICITY-MAGNETISM
PHYS UN3008	ELECTROMAGNETIC WAVES # OPTICS

### Mathematics

Select one of the following sequences:

Four semesters of calculus:

MATH UN1101	CALCULUS I
& MATH UN1102	and CALCULUS II
& MATH UN1201	and CALCULUS III
& MATH UN1202	and CALCULUS IV

Two semesters of honors mathematics:

MATH UN1207	HONORS MATHEMATICS A
& MATH UN1208	and HONORS
& MATH UN3027	MATHEMATICS B
	and Ordinary Differential Equations

Two semesters of advanced calculus:

MATH UN1202	CALCULUS IV
& MATH UN3027	and Ordinary Differential Equations

## Major in Environmental Chemistry

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above. A second semester of Organic Chemistry lecture is recommended NOT required.

CHEM UN3079	PHYSICAL CHEMISTRY I- LECTURES
CHEM GU4071	INORGANIC CHEMISTRY
The following courses are recommended NOT required:	
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES

CHEM UN3920 SENIOR SEMINAR

**Earth and Environmental Science**

Select two of the following three courses:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

Additional course required:

EESC UN3101	Geochemistry for a Habitable Planet
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Select one of the following labs:

EESC BC3016	ENVIRONMENTAL MEASUREMENTS
CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I

Select one option for Independent Research in  
Environmental Chemistry:

EESC BC3800 & EESC BC3801	ENVIR SCIENCE SENIOR SEMINAR and ENVIR SCIENCE SENIOR SEM II
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CHEM UN3098	SUPERVISED INDEPENDENT RES (It is strongly recommended to take CHEM UN3920 if taking CHEM UN3098)
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**Physics**

Select one of the following physics sequences:

Sequence A:

PHYS UN1201 & PHYS UN1202	GENERAL PHYSICS I and GENERAL PHYSICS II
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Sequence B:

PHYS UN1401 & PHYS UN1402 & PHYS UN1403	INTRO TO MECHANICS # THERMO and INTRO ELEC/ MAGNETISM # OPTICS and INTRO-CLASSCL # QUANTUM WAVES (Recommended NOT required)
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Sequence C:

PHYS UN1601 & PHYS UN1602 & PHYS UN2601	PHYSICS I:MECHANICS/ RELATIVITY and PHYSICS II: THERMO, ELEC # MAG and PHYSICS III:CLASS/ QUANTUM WAVE (Recommended, not required)
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Sequence D:

PHYS UN2801 & PHYS UN2802	ACCELERATED PHYSICS I and ACCELERATED PHYSICS II
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**Mathematics**

Two semesters of calculus:

MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II

MATH UN1201 CALCULUS III

MATH UN1202 CALCULUS IV

**Additional Courses**

Select any two of the following:

**Chemistry:**

CHEM UN3080	PHYSICAL CHEMISTRY II- LECTURES
CHEM GU4103	ORGANOMETALLIC CHEMISTRY
CHEM GU4147	ADVANCED ORGANIC CHEMISTRY I

**Earth and Environmental Science:**

EESC BC3017	ENVIRONMENTAL DATA ANALYSIS
EESC BC3025	HYDROLOGY
EESC GU4008	Introduction to Atmospheric Science
EESC GU4009	CHEMICAL GEOLOGY
EESC GU4040	CLIM THERMODYN/ENERGY TRANSFER
EESC GU4050	GLOBAL ASSMT-REMOTE SENSING
EESC GU4600	EARTH RESOURCES # SUSTAIN DEV
EESC GU4835	Wetlands and Climate Change
EESC GU4885	CHEMISTRY OF CONTINENTAL WATERS
EESC GU4888	Stable Isotope Geochemistry
EESC GU4924	INTRO TO ATMOSPHERIC CHEMISTRY
EESC GU4925	INTRO TO PHYSICAL OCEANOGRAPHY
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY

**Earth and Environmental Engineering:**

EAEE E4001	INDUST ECOLOGY-EARTH RESOURCES
EAEE E4003	AQUATIC CHEMISTRY

**Mathematics:**

One additional semester of calculus

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**Minor in Chemistry**

Students should select one of the following tracks:

**Track 1**

CHEM UN1403	GENERAL CHEMISTRY I- LECTURES
CHEM UN1404	GENERAL CHEMISTRY II- LECTURES
CHEM UN1500	GENERAL CHEMISTRY LABORATORY

CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
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**Track 2**

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
or CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES

**Track 3**

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR

Select an additional two classes from the following options:

CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
CHEM GU4071	INORGANIC CHEMISTRY
BIOC GU4501	BIOCHEM I-STRUCTURE/METABOLISM

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Chemistry

No more than four points of CHEM UN3098 SUPERVISED INDEPENDENT RES may be counted toward the concentration.

Select one of the three chemistry tracks listed below.

PHYS UN1201 & PHYS UN1202	GENERAL PHYSICS I and GENERAL PHYSICS II
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Two semesters of calculus

### Chemistry Tracks

**Track 1**

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
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Select 22 points of chemistry at the 2000-level or higher (excluding CHEM UN2408).

**Track 2**

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
or CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)

Select 22 points of chemistry at the 2000-level or higher (excluding CHEM UN2408).

**Track 3**

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR

Select 18 points of chemistry at the 2000-level or higher (excluding CHEM UN2408).

## CLASSICS

### THE DEPARTMENT OF CLASSICS

Department website: <https://classics.columbia.edu/>

Office location: 617 Hamilton Hall

Office contact: 212-854-3902, [classics@columbia.edu](mailto:classics@columbia.edu) ([videogameugrad@columbia.edu](mailto:videogameugrad@columbia.edu))

Director of Undergraduate Studies: Professor Nikolas Kakkoufa, [Nk2776@columbia.edu](mailto:Nk2776@columbia.edu)

Department Administrator (DAAF): Jared Stickley, [js5074@columbia.edu](mailto:js5074@columbia.edu)

### THE STUDY OF CLASSICS

Classics is the study of the civilizations of ancient Greece and Rome (c. 900 BCE to 500 CE): their languages, literature, history, philosophy, art, and ways of life. The Department of Classics offers a wide variety of courses, geared at students with different interests and at all levels of preparation. These include courses on ancient civilization in all its diversity, classes on ancient literature in translation, and numerous courses in ancient Greek and Latin, from elementary language classes to advanced literature courses. We also offer courses on ancient Egypt as well as the Near East, Medieval Latin, and Modern Greek.

## STUDENT ADVISING

### Consulting Advisers

Director of Undergraduate Studies: Professor Nikolas Kakkoufa, [Nk2776@columbia.edu](mailto:Nk2776@columbia.edu)

Students should consult with the DUS who will direct them to the appropriate faculty advisor for their research interest area.

### Enrolling in Classes

Students starting in the Major should start with the language placement exam to determine the appropriate language level for their prior knowledge. Exams are administered in late August by the Department of Classics. Students who cannot take the exam should contact the Director of Undergraduate Studies to make arrangements.

For those students who are starting the major without prior knowledge of the ancient languages please start at the beginning of the sequence (1000 level) in one of the ancient languages and speak to the Director of Undergraduate Studies to determine your best course of study.

### Preparing for Graduate Study

<https://classics.columbia.edu/preparation-for-graduate-study>

Students who are considering graduate work in Classics should be aware that because our Classics major is not a pre-professional degree, simply fulfilling the normal major requirements will not guarantee admission to a graduate program. By far the most important element in preparation for graduate school admission is a good command of both the Latin and the Greek languages, so students who wish to go to graduate school should attempt to reach the advanced level in both languages. The two courses at the intermediate level required in the secondary language for the Classics major are not enough for admission to most graduate programs, and the language requirements of both Classical Studies and Ancient Studies are well below the level normally necessary for graduate school admission. The importance of languages holds not only for students wishing to study ancient literature, but also for those interested primarily in other aspects of the ancient world (history, art, philosophy, religion, etc.), because it is not possible to pursue advanced research successfully unless one can make use of the primary sources. Students who have not done the requisite amount of language work and wish to go to graduate school can enroll in a post-baccalaureate program (either at Columbia or at another institution) to do one or two years of intensive language work before starting graduate school.

While knowledge of Latin and Greek is the most important factor in graduate school admission, it is by no means the only one. Students considering graduate work are also advised to write a senior thesis (and not to substitute the

thesis for any of the other advanced courses). If possible, it is a good idea to use some of your summers (especially the one between junior and senior year) on a relevant activity such as archaeological fieldwork experience, travel and/or study in Greece or Italy, learning French or German, improving your Latin or Greek, or working as a research assistant for a Classicist. It is also useful to get high scores on the GRE test, and these are best achieved by obtaining and studying information on the types of questions asked on the test and taking practice tests.

The department does offer a combined BA/MA program in Classics allowing them to complete the MA in Classics within one year of receiving their BA.

The array of graduate degrees on offer in the US and abroad can be bewildering—including master's and doctoral programs in Classics and a variety of related subjects—and the character and quality of graduate programs differs widely. It is therefore important to gather information and seek advice.

If you are considering graduate work, you should discuss your plans with the Director of Undergraduate Studies and other faculty members no later than the beginning of the fall semester before you hope to apply (i.e., typically the fall of your senior year).

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The department grants 3 credits for a score of 5 on the Latin AP exam, which also satisfies the foreign language requirement, upon successful completion (with a grade of B or higher) of a Latin class at the 3000-level or higher.

### Barnard College Courses

The Department of Classics at Columbia and the Department of Classics and Ancient Studies at Barnard College work closely together. Students may take courses at Barnard to count towards the Major or Minor. Students at Barnard should speak to their advisor at Barnard regarding Columbia courses as the departments are distinct and the requirements for their respective majors are different.

### Transfer Courses

Students transferring to Columbia should contact the Director of Undergraduate Studies to discuss equivalencies and what level of courses they wish to take.

### Study Abroad Courses

Seeing the ancient sites and monuments is an important part of the study of antiquity, and there are a number of ways to acquire some familiarity with the physical remains of Greek and Roman civilization. The Intercollegiate Center for Classical Studies in Rome offers in each term an excellent



one-semester program, usually taken in the junior year, and the College Year in Athens offers a wide variety of courses ranging from language and literature to history, art, and archaeology. During the summer there are more options, including the outstanding Summer Sessions of the American School for Classical Studies in Athens. A listing of fieldwork opportunities is published annually by the Archaeological Institute of America.

### Summer Courses

Courses are offered over the summer by the department providing opportunities to study the ancient languages over the summer.

Courses are also offered in Classical Civilization including Worlds of Alexander and Classical Mythology.

## CORE CURRICULUM CONNECTIONS

Faculty and Graduate Instructors from the Department of Classics Teach in the Core, usually Literature Humanities and Contemporary Civilization.

Some Classics courses can be used to count toward the Global Core requirement as noted in the course information.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

Students should consult with the Director of Undergraduate Studies, Professor Nikolas Kakkoufa at [nk2776@columbia.edu](mailto:nk2776@columbia.edu). Students can register for Directed readings with a faculty member.

### Senior Thesis Coursework and Requirements

Students are required to take the Major Seminar UN3996 as part of the program. The course focuses on the preparation for the Senior Thesis and methods in the field of Classics. Currently students have the option to participate in a trip abroad to sites in the ancient world.

### Undergraduate Research Outside of Courses

Students are encouraged to participate in the Ancient Play put on yearly by the Barnard Columbia Ancient Drama Group.

The Department is able to support a limited number of students to study ancient languages over the summer through the Comager Fund and the Undergraduate Latin fund. Interested students should contact the Director of Undergraduate Studies.

Undergraduate students can apply to the SNFPHI Summer Research Internship in Public Humanities and Hellenic

Studies. This six week internship invites undergraduate students to explore public humanities, gain hands-on experience with its objectives, methods, and outcomes, and pursue a group project that connects research on Greece with a broad public audience. The internship is structured around: (1) a seminar in Hellenic Studies in which students explore aspects of modern Greek history and culture relevant to their internship research, (2) a workshop in which students are trained in the methods and tools of public-facing research, and (3) a group project in which students work closely with Columbia faculty and public humanities partners in Greece.

Columbia runs its own archeological summer program at Hadrian's Villa in Tivoli. Contact Professor Francesco de Angelis.

Students wanting Columbia or Barnard credit for work done abroad should discuss their plans with the director of undergraduate studies at an early date to enable them to incorporate experience abroad most practically into their programs here.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Departmental Honors are awarded for overall outstanding performance in the Classics.

### Academic Prizes

The department offers two prize competitions yearly (Earle and Romaine) in sight translation of Greek and Latin. These prizes are awarded on the basis of examinations given each spring.

Two prizes are given to graduating Columbia College seniors:

- The Caverly Prize is awarded annually for outstanding performance by a graduating Columbia College major.
- The Stadler Prize is awarded annually to a graduating senior of Columbia College who is judged by the faculty to have demonstrated academic excellence through course work and the writing of a senior essay on some aspect of the history or culture of the classical world.

## OTHER IMPORTANT INFORMATION

Students interested in majoring in Classics should reach out to the Department early in their academic career. Students should contact the Director of Undergraduate Studies with any questions.

Students participating in dual degree programs should contact the Director of Undergraduate Studies.

## **PROGRAM IN HELLENIC STUDIES**

Department website: [hellenic.columbia.edu](http://hellenic.columbia.edu)

Office location: 618 Hamilton Hall

Office contact: 212-851-0297, [hellenic@columbia.edu](mailto:hellenic@columbia.edu)  
([videogameugrad@columbia.edu](mailto:videogameugrad@columbia.edu))

Director of Undergraduate Studies: Prof. Nikolas Kakkoufa;  
212-854-3902; [nk2776@columbia.edu](mailto:nk2776@columbia.edu)

Undergraduate Administrator: Eleni Gizas; 212-851-0297;  
[eag2191@columbia.edu](mailto:eag2191@columbia.edu)

## **THE STUDY OF MODERN GREEK**

The Program offers students the opportunity to study Greece through a modern lens and prepares them for professional work or further academic study in the humanities and social sciences, international studies, fine arts or, more recently, more interdepartmental endeavors. At the heart of the curriculum is a series of courses that investigate the relation between language and culture in the Greek-speaking world (including the diaspora) throughout its modern history. The aim has been to build a strong linguistic base on which to construct a greater knowledge of Modern Greek literary, political, social, and cultural currents and attitudes, and also to offer students a theoretical framework for analyzing cultural differences more generally. Since then, Balkan and Mediterranean Studies, but also Classical Reception Studies outside the strict Classics world, have become part of the Hellenic Studies curriculum, especially insofar as they contribute to Global Core, Global Humanities, and interdisciplinary initiatives.

The Core Faculty of the PHS are Dimitris Antoniou, Chrysanthi Filippardos, Stathis Gourgouris, Nikolas P. Kakkoufa, Paraskevi Martzavou, and Karen Van Dyck. A number of affiliated faculty (but also the HLS faculty that is housed in Classics – Gourgouris, Van Dyck, Kakkoufa) teach and conduct their research in relation with other departments, institutes, and initiatives – notably, the Institute for Comparative Literature and Society (ICLS), the Institute for the Study of Sexuality and Gender (ISSG), the Institute for the Study of Human Rights, the Harriman Institute, and the Stavros Niarchos Foundation Public Humanities Initiative (SNFPHI). Its affiliated faculty members include, among others, John Ma in Classics, Mark Mazower in History, Ioannis Mylonopoulos in Art History and Archaeology, Neni Panourgia in the Justice in Education Program, Elsa Stamatopoulou in Human Rights, Nadia Urbinati in Political Science, and Konstantina Zanou in Italian.

The PHS organizes and co-sponsors the University Seminar in Modern Greek, a Lecture Series with the Greek Consulate

in New York and a number of Hellenic Studies Workshops, Film Screenings, and occasional colloquia that provide a forum of discussion of research in progress on all aspects of Greek Civilization of which our students frequently take advantage. It also maintains a strong collaboration with the Stavros Niarchos Foundation Public Humanities Initiative and the newly established Columbia Global Center in Athens.

## **STUDENT ADVISING**

### **Consulting Advisers**

The Director of Undergraduate Studies (DUS) of the Program in Hellenic Studies in the Department of Classics is responsible for approving courses, overseeing enrollment, advising prospective and current minors, and certifying minors for graduation both in the Minor in Modern Greek Language, Literature, and Culture and the Minor in Hellenic Studies. Students should consult with the Director of Undergraduate Studies, Prof. Nikolas P. Kakkoufa at [nk2776@columbia.edu](mailto:nk2776@columbia.edu)

### **Enrolling in Classes**

Students are encouraged to consult with the Director of Undergraduate Studies to review course options and requirements.

### **Preparing for Graduate Study**

The Program in Hellenic Studies does not offer a graduate path of study but it has prepared students for further study in a number of disciplines with a focus on Modern Greece.

## **COURSEWORK TAKEN OUTSIDE OF COLUMBIA**

### **Advanced Placement**

The Program in Hellenic Studies offers a language placement test the week before the first day of classes in the fall. The test consists of both written and oral parts. Students who wish to schedule the test before the start of the fall semester, or to take a Modern Greek placement test at any other time in the year, or who have particular questions about placing, should contact the Director of Undergraduate Studies.

### **Barnard College Courses**

The Program in Hellenic Studies offers a Minor in Modern Greek at Barnard College. The Minor requires five courses beyond the Elementary Level. The Minor in Modern Greek is administered through the Department of Classics and Ancient Studies at Barnard College. Students wishing to minor in Modern Greek should consult with the Director of Undergraduate Studies.

## Transfer Courses

Students transferring to Columbia should contact the Director of Undergraduate Studies to discuss equivalencies and what level of courses they wish to take.

## Study Abroad Courses

Students may wish to enroll in the College Year in Athens Program for a semester-long or summer session. The College Year in Athens offers a wide variety of courses ranging from language and literature to history, art, and archaeology. Students wanting credit for work done abroad should discuss their plans with the Director of Undergraduate Studies at an early date to enable them to incorporate experience abroad most practically into their programs here.

## Summer Courses

Students can enroll in the Travel Seminar, “Mediterranean Humanities in Athens”, organized in partnership with Columbia Global, the Aikaterini Laskaridis Foundation, and the Center for Undergraduate Global Engagement. Students participating in this seminar take Athens, Greece, as a vantage point to explore the multiple ways this body of water has been imagined by the people who lived or traveled across its shores. In this one-week seminar, students immerse themselves in the history and culture of Athens and its environs through a combination of lectures, guided museum visits, educational walks, field trips, and hands-on workshops.

## CORE CURRICULUM CONNECTIONS

Modern Greek language courses count towards the Core requirements. The following classes count towards the Global Core Requirement:

GRKM UN3935 Hellenism and the Topographical Imagination

CLGM GU4600 Multilingual Worlds: Translation, Gender and the Greek Diaspora

CSGM UN3567 Thessaloniki Down the Ages

CLGM UN3920 The World Responds to the Greeks: Modernity, Postcoloniality, Globality

CLGM UN3110 The Ottoman Past in the Greek Present

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

Students should consult with the Director of Undergraduate Studies, Prof. Nikolas P. Kakkoufa at [nk2776@columbia.edu](mailto:nk2776@columbia.edu). Students can register for Directed

readings (3997), a Senior Research Seminar (3998) or Supervised Independent Research (4460).

Senior Thesis Coursework and Requirements [drop-down] Though a Senior Thesis is not required for graduation it enables a student to be considered for departmental honors. It is advisable to begin planning for the thesis during the junior year. Interested students should identify a potential faculty advisor and discuss their plans with the DUS.

## Undergraduate Research Outside of Courses

Undergraduate students can apply to the SNFPHI Summer Research Internship in Public Humanities and Hellenic Studies. This six week internship invites undergraduate students to explore public humanities, gain hands-on experience with its objectives, methods, and outcomes, and pursue a group project that connects research on Greece with a broad public audience. The internship is structured around: (1) a seminar in Hellenic Studies in which students explore aspects of modern Greek history and culture relevant to their internship research, (2) a workshop in which students are trained in the methods and tools of public-facing research, and (3) a group project in which students work closely with Columbia faculty and public humanities partners in Greece.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Departmental Honors are awarded for overall outstanding performance.

## PROFESSORS

Kathy Eden  
Carmela V. Franklin  
Stathis Gourgouris  
John Ma (Chair)  
Kristina Milnor (Barnard, Chair)  
Seth R. Schwartz  
Deborah T. Steiner  
Karen Van Dyck  
Katharina Volk  
Gareth D. Williams  
Nancy Worman (Barnard)

## ASSOCIATE PROFESSORS

Marcus Folch  
Joseph Howley  
Elizabeth Irwin  
Ellen Morris (Barnard)

## SENIOR LECTURER

Elizabeth Scharffenberger

## LECTURERS

Dimitrios Antoniou  
Lien Van Geel  
Hanna Golab  
Nikolas Kakkoufa  
Darcy Krasne

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN CLASSICS

### Program Planning for all Students

The department offers a major in classics and a major track in classical studies. The major in classics involves the intensive study of both Greek and Latin, as well as their cultural matrix; the track in classical studies offers a more interdisciplinary approach. The major in classics is recommended for students planning to continue the study of classics in graduate school. The department also participates in the interdepartmental ancient studies program and offers a concentration in classics; these are all described below.

The major in classics and the track in classical studies are designed in part to build on the experience of the ancient world that undergraduates have acquired at Columbia in the Core Curriculum (especially in Literature Humanities). The major in classics is structured on the principle of gradual and closely monitored linguistic progress from the elementary (1100-level) to the advanced (3000- and 4000-levels) and ultimately to the literature survey courses (GU4105-GU4106) in Greek and/or Latin.

Those majors intending to embark on graduate study in classics are especially encouraged to undertake, in their senior year, an independent research project (UN3998). This option is designed to allow students to personalize their experience in the major by conducting advanced study in a specialized area under the guidance of the specializing faculty member of their choice.

UN3998 is required in the classical studies track. Otherwise, students in classical studies are not required to take advanced courses beyond UN3996 The Major Seminar, but are expected to follow a coherent plan of study by taking a sequence of cognate courses in different but related departments (e.g., art history and archaeology, history, etc.).

### Course Numbering Structure

In both Greek and Latin prerequisites are the course with the number before in the sequence. Students can test out of the prerequisite with a placement test or through the Director of Undergraduate Studies.

In both languages the sequence is as follows:

1101: Elementary I

1102: Elementary II

1121: Intensive Elementary

2101: Intermediate I

2102: Intermediate II

For 2101 Either 1102 or 1121 is required as a prerequisite or a placement test.

The course numbers below are used for both Greek and Latin, except as noted. Please consult the Columbia and Barnard catalogs for full descriptions of all courses.

1101-2: Introductory language course in TWO semesters. This is the normal course taken by those beginning a language not previously studied; it covers all the basic grammar and gives some practice reading easy texts.

1121: This one-semester course is the equivalent of both 1101 and 1102; it covers all the basic grammar in one semester and enables the participants to take courses at the 2100 level the following semester. This is an intensive course, so you should be prepared to make a substantial time commitment.

2101-2: This sequence provides intermediate language training in both prose and poetry. The completion of 2102 satisfies the language requirement.

3012 (Latin only): This is the fifth-semester Latin course and the beginning of the Latin literature sequence. It is highly recommended for incoming first-year students who have had enough Latin to place out of 2101-2 or for those who have completed the intermediate sequence here.

3013 (Latin only): This new course is designed as a sequel or alternative to 3012 and aims to sharpen translation skills by concentrating on classical Latin prose.

3309, 3310, 4009, 4010: These advanced literature courses are offered annually with changes in subject matter so that students will have a chance to read as many representative authors as possible. Courses at the 4000 level are not necessarily more difficult than those at the 3000 level when taken by undergraduates; the significance of the designation is that graduate students as well as undergraduates may take 4000 level courses, but in many cases undergraduates and graduates will not be given the same workload in these courses. Students who are in doubt about the level of a specific class should consult the instructor.

3033, 4152 (Latin only): These courses constitute the sequence in medieval Latin; in most years both will be offered.

3996: The Major Seminar is intended for senior majors in Classics, Classical Studies, and Ancient Studies but is



also open to juniors. The course considers a different topic each year, analyzing it across time periods, genres, and both languages. It focuses on honing skills that are useful for working on the senior thesis, such as how to frame a discussion topic, how to analyze a text philologically and thematically, and how to develop a bibliography. The course also provides upper-level students in Classics, Classical Studies, and Ancient Studies with an opportunity to get to know each other in a congenial and interactive environment.

4105-6: The literature surveys are designed to give advanced Classics undergraduates and entering graduate students a grasp of the broader picture of Greek or Latin literature, as opposed to the more focused topics offered in other advanced courses.

5139: This course focuses on enabling students to write, as well as read, Greek and Latin. It consists largely of an intensive review of grammar and syntax at an advanced level, with the translation of sentences or short paragraphs into the ancient languages. Note: This is technically a graduate course, but undergraduates are welcome to enroll with the instructor's permission. 5139 replaces the old 4139; the content of the course remains the same.

### **CLASSICAL CIVILIZATION AND LITERATURE IN TRANSLATION**

These courses are designed for both majors and non-majors and are ideal for students with no prior background in the ancient world, though they may also be of interest to more advanced students. Some, such as Classical Myth (3132), are normally offered every year; others are offered in rotation or once only.

### **Guidance for First-Year Students**

The director of undergraduate studies is responsible for overseeing the path of study followed by each student in classics or classical studies. Through close interaction with the director of undergraduate studies, as well as with other faculty members where appropriate, each major is strongly encouraged to debate the strengths and weaknesses of his or her own trajectory of study even as the requirements for the major are being completed.

Students should contact the director of undergraduate studies with any questions about the classics majors and course offerings. The director of undergraduate studies can provide students with a worksheet to help in planning their progress toward major requirements.

### **Guidance for Transfer Students**

Students should contact the director of undergraduate studies with any questions about the classics majors and course offerings. The director of undergraduate studies can

provide students with a worksheet to help in planning their progress toward major requirements.

## **UNDERGRADUATE PROGRAMS OF STUDY: CLASSICS**

### **Required Coursework for all Programs**

The major is offered with two tracks, Classics and Classical Studies. The former, which is recommended for students considering graduate work in Classics, concentrates heavily on the ancient languages and literature; the latter can be earned with only one of the ancient languages and includes more courses on other aspects of the ancient world. The Classics department also participates in the interdepartmental Ancient Studies major, which is designed for students whose interests encompass the ancient Mediterranean as a whole rather than the Greco-Roman world in particular. The Classics Concentration/Minor is earned in either Latin or Greek; there is also a Greek/Latin Minor for students of the School of Engineering and Applied Science.

### **Major in Classics**

11 courses, minimum 34 credits

In the primary language:

- Four courses at or above the 2100-level
- Major seminar 3996
- Two courses from the Advanced Menu of four (4105, 4106, 5139, 3998; any others may count toward the four upper level requirement)

In the secondary language:

- Two courses at or above the 2100 level

Two ancient culture courses, including:

- One in the culture of the primary language
- One in any aspect of ancient history or culture (HIST, AHIS, PHIL, CLLT, CLCV...)

A student must write a thesis (UN3998) to be considered for Departmental Honors and prizes.

### **Major in Classical Studies**

11 courses, minimum 35 credits

- Five courses, at or above 1102, in either or both Latin and Greek
- Major Seminar 3996



- Four classes in ancient history, art, philosophy, religion, civilization
- Senior thesis 3998

## Major in Ancient Studies

### The Minors in the Department of Classics

There are five tracks towards obtaining a **Minor in Classics**.

- The track in Classics is designed for students who wish to study both Greek and Latin language, literature, and culture. This track envisages advanced competence in one ancient language and elementary knowledge of the other.
- The tracks in Greek or Latin allow students to develop significant knowledge of the language, literature, and culture of either ancient Greece or Rome. These tracks envisage advanced competence in one ancient language, Greek or Latin, and sustained study of one ancient civilization.
- The track in Classical and Ancient Civilizations allows students to receive recognition for coursework in the study of ancient societies while not mandating the study of an ancient language. Language work, however, is encouraged and, at and above the intermediate level, may be counted toward this track.
- The track in Classical Reception and the Classical Tradition allows students to focus on the cultural legacy of ancient Greek and Roman societies. Although not required, language work is encouraged and, at and above the intermediate level, may be counted toward this track.

### Minor tracks in detail

**I. CLASSICS.** 5 courses. A minimum of 15 credits. (Students without prior knowledge of Greek and Latin may be required to take as many as 22 credits in the primary language (elementary 1102 & 1102, intermediate 2101 & 2102, and advanced 3009 & 3010), 8 credits in the secondary language (elementary 1101 & 1102), and 6 credits for the Cultural and Historical Breadth requirement.)

- **Primary Language:** Three courses in the primary language at or above the 2100-level.
- **Secondary Language:** One course in the secondary language at or above the 1102-level.
- **Cultural and Historical Breadth:** One course on any aspect of any aspect of the culture (including archaeology, art history, history, literature, philosophy, and post-Classical reception) of the primary language.

**II & III. GREEK OR LATIN** A minimum of 15 credits. (Students without knowledge of Greek or Latin may be required to take as many as 19 credits in one language (elementary 1102 & 1102, intermediate 2101 & 2102, and

advanced 3009), as well as 6 credits for the Cultural and Historical Concentration.

• **Language Concentration:** Three courses in Greek or Latin at or above the 2100-level; The minor—Greek or Latin—is determined by the language chosen for the Language Core.

• **Cultural and Historical Concentration:** Two courses on any aspect of any aspect of the literature, culture, and/or history (including archaeology, art history, history, literature, philosophy, and post-Classical reception) of the student's chosen language. Language courses at or above the 3000-level may count toward this requirement; it is thus possible for students to begin studying an ancient language at the elementary level in the freshman year and to complete the requirements for the minor by the senior year by taking coursework in that language.

### IV. CLASSICAL AND ANCIENT CIVILIZATIONS

A minimum of 15 credit points. (Language study is not required for this track. However, for students who wish to use language courses to count toward minor requirements, this track may take more coursework and credit points; how many will depend on the student's familiarity with the language.)

• **Fundamental Breadth:** Five courses on any aspect of the ancient Greco-Roman Mediterranean and neighboring societies.

• **Advanced Studies:** Three of the five courses above must be taken at the advanced (usually UN3000 or above) level. One Greek or Latin course at or above the 2102-level may count toward the Advanced Studies requirement.

### V. CLASSICAL RECEPTION AND THE CLASSICAL TRADITION

A minimum of 15 credit points. (Language study is not required for this track. However, for students who wish to use language courses to count toward minor requirements, this track may take more coursework and credit points; how many will depend on the student's familiarity with the language.)

• **Foundational Breadth 1—Ancient Civilizations:** Two courses on any aspect of the ancient Greco-Roman Mediterranean and neighboring societies.

• **Foundational Breadth 2—Classical Reception and the Classical Tradition:** Three courses on classical reception, the classical tradition, and/or comparative approaches to the study of the ancient world. Coursework for this requirement may focus on Medieval and Renaissance Studies, Hellenic Studies, English, Comparative Literature, and related disciplines.

• **Advanced Studies:** Three of the five courses taken for this minor must be taken at the advanced level (UN3000 or above). One Greek or Latin course at or above the 2102 level may count toward the Advanced Studies requirement.

• No fewer than four courses counted toward this track must be taught by Columbia and Barnard Classics and Ancient Studies faculty.

Please visit the following website for details -- [Minor in Classics — Columbia University Department of Classics](#)

For further information, please contact the Director of Undergraduate Studies.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration (Columbia College and General Studies) in Classics

7 courses, minimum 21 credits

Six courses in one classical language (Latin or Greek), of which

- Five courses above the 1100 level, three of which must be 3/4000 level
- One from the following three advanced options: 4105, 4106, 5139

One course in ancient history or classical civilization

### PROGRAM IN HELLENIC STUDIES

Department website: [hellenic.columbia.edu](http://hellenic.columbia.edu)

Office location: 618 Hamilton Hall

Office contact: 212-851-0297, [hellenic@columbia.edu](mailto:hellenic@columbia.edu) ([videogameugrad@columbia.edu](mailto:videogameugrad@columbia.edu))

Director of Undergraduate Studies: Prof. Nikolas Kakkoufa; 212-854-3902; [nk2776@columbia.edu](mailto:nk2776@columbia.edu)

Undergraduate Administrator: Eleni Gizas, [eag2191@columbia.edu](mailto:eag2191@columbia.edu)

Guidance for Undergraduate Students

### Program Planning for all Students

The Program in Hellenic Studies offers 1) a Minor in Modern Greek Language, Literature, and Culture, 2) a Minor in Hellenic Studies, 3) a Special Concentration in Modern Greek (for students enrolled prior to Fall 2024), and 4) a Minor in Modern Greek at Barnard College.

The Minor in Modern Greek Language, Literature, and Culture is designed to offer students an advanced understanding of contemporary Greece with a specialization in the field of Modern Greek Language, Literature, and

Culture that is representative of the intellectual breadth of our core Faculty.

The Minor in Hellenic Studies functions as a cluster of courses that will introduce students to the diachronic study of Greece and could complement the majors in Classics, Classical Studies, Art History and Archaeology, History, etc.

The Special Concentration is structured around course offerings in Modern Greek Language & Culture Courses and in Modern Greek Studies Interdepartmental courses.

Students should [visit the website](#) for more information or contact the Director of Undergraduate Studies, Prof. Nikolas P. Kakkoufa.

### Course Numbering Structure

1101: Elementary I

1102: Elementary II

2101: Intermediate I

2102: Intermediate II

3000+: Other courses

3997: Directed readings

3998: Senior Research Seminar

4460: Supervised Independent Research

GRKM: Greek Modern

CLGM: Comparative Literature Greek Modern

CSGM: Classics Greek Modern

HLNS: Hellenic Studies

### Guidance for First-Year Students

The Director of Undergraduate Studies is responsible for overseeing the path of study followed by each student. Students should contact the DUS with any questions about the minors, course offerings, and language placement exam.

### Guidance for Transfer Students

Transfer students should contact the Director of Undergraduate Studies, Prof. Nikolas P. Kakkoufa at [nk2776@columbia.edu](mailto:nk2776@columbia.edu).

## UNDERGRADUATE PROGRAMS OF STUDY

### **Minor in Modern Greek Language, Literature, and Culture**

The Minor in Modern Greek Language, Literature, and Culture (MGLLC) consists of 5 (15-18 credits) courses on top of the successful completion of the Elementary Modern Greek Sequence (8 credits). Students may double count the Intermediate Sequence both for the Language Requirement and for the MGLLC. The focus of the minor is the study of the language, literature, and Culture of Modern Greece. The minor is open to Columbia College and General Studies students.

The general learning goals of this minor are 1) to provide the training necessary to speak, comprehend, read and write Modern Greek, which would allow students to participate not only in basic everyday communications but also to academically interact with primary material in Modern Greek, 2) to offer an awareness of the diverse populations and cultures in which Modern Greek is spoken (Greece, Cyprus, the Diasporas) and of the sociolinguistic aspect of their language/dialects; a deeper understanding of what language is and does, 3) to function as an introduction to the professional abilities and skills needed to undertake graduate training as scholars in the humanities, translators, and interpreters, 4) to develop proficiency in the literary and cultural accomplishments of Modern Greek, 5) to acquire and hone skills in the methodologies of close reading of texts and critical thinking, 6) to engage in diverse methods of inquiry about texts, visual material, and cultural material more broadly, 7) to raise Global awareness and respect for other cultures, and 8) to develop abilities in articulation of ideas and precision in oral/written presentation. These goals are also enriched by the specific learning goals and methods that our faculty set in their individual syllabi.

- **PREREQUISITE**

- Students should have satisfied the Elementary Sequence (GRKM1101, GRKM1102) or demonstrated equal proficiency through a placement test administered by the Program in Hellenic Studies

- **DECLARING**

- There is no formal application to the Minor. Interested students should contact the Program's Director of Undergraduate Studies, Prof. Nikolas P. Kakkoufa.

- **REQUIREMENTS**

- Five (15-18 credits) courses on top of the successful completion of the Elementary Modern Greek Sequence (8 credits). Any appropriate course taught

in the area of Modern Greek Studies in departments other than Classics must be approved by the DUS. Typically, no more than two courses will be allowed to double-count with a student's major or the college's Core Requirements.

- GRKM 2101 Intermediate Modern Greek I
- GRKM 2102 Intermediate Modern Greek II
- Students who place out of the Intermediate Sequence will have to replace those two courses with the lectures and seminars offered and cross listed by the Program in Hellenic Studies. Students are also strongly encouraged but not required to complete GRKM 3003 prior to enrolling in other classes.
- Three additional courses at the 2000 level or above from at least two of the following three categories:
  - Any course listed by the Program in Hellenic Studies (GRKM, CLGM, CSGM).
  - Any course cross-listed by the Program in Hellenic Studies with the code GM (courses that contribute to an understanding of some aspect of Modern Greece within larger analytical concepts).
  - Directed Readings and Independent Study.
- Though a Senior Thesis is not required for graduation it enables a student to be considered for departmental honors. It is advisable to begin planning for the thesis during the junior year. Interested students should identify a potential faculty advisor and discuss their plans with the DUS.

### **Minor in Hellenic Studies**

The Minor in Hellenic Studies consists of 5 courses (15-20 credits). Although there are no prerequisites, the study of either ancient or modern Greek is highly recommended. To ensure this truly interdisciplinary course of study the required classes are based on selecting classes from the following – broadly conceived – distribution requirements: 1) Period, 2) Discipline, 3) Geography.

The general learning goals of the Minor in Hellenic Studies are: 1) to introduce students to Hellenic studies as a diverse and interdisciplinary field and to interdisciplinary research at Columbia more broadly; 2) to familiarize students not only with Greece as a space at the crossroads of East and West but also with the ways in which different disciplines have considered space across geography and time; 3) to acquire a global perspective on the reception of Hellenic material and to give students vital tools needed to engage in diverse methods of inquiry about texts, visual material, and cultural material more broadly; 4) to offer students first-hand exposure to objects of material and visual culture

through the Hellenic Collection in our Library (which has, for example, the biggest collection of zines outside of Greece) but also the Museums with Hellenic Collections across the city of New York and, hopefully, with the further development of the Global Center in Athens, to research collections and archaeological and historical sites in Greece with study abroad classes; 5) to critically think about and problematize the narratives of nations, traditions, and claims to continuity as it affects today's world through a deep historical and broad geographical study 5) to acquire and hone skills in close reading of texts and critical thinking and to develop abilities in articulation of complex ideas and precision in oral/written presentation. It also aims to enrich the students' undergraduate experience by encouraging them to take part in the diverse activities and programming of the Program in Hellenic Studies and the Stavros Niarchos Initiative for Public Humanities. The minor is open to Columbia College and general Studies students.

#### • PREREQUISITE

- There are no prerequisites for the Hellenic Studies Minor. The study of either ancient or modern Greek is strongly encouraged.

#### • DECLARING

- There is no formal application to the Minor. Interested students should contact the Program's Director of Undergraduate Studies, Dr. Nikolas P. Kakkoufa.

#### • REQUIREMENTS

- 5 courses (15-20 credits) at the 2000 level or above from at least two of the following three categories:
  - Any course listed by the Program in Hellenic Studies (GRKM, CLGM, CSGM).
  - Any course cross-listed by the Program in Hellenic Studies with the code HLNS (courses that contribute to an understanding of some aspect of Hellenic studies in different periods, different disciplinary focus, different geographical contexts).
  - Directed Readings and Independent Study
- Students will need to complete courses in all three distribution areas: 1) Periods (e.g. Ancient, etc.), 2) Disciplines (Comparative Literature, Queer Studies, Anthropology, Translation, History, Archaeology, etc.) 3) Geography (Mediterranean Studies, etc.) .
- Any appropriate course taught in the area of Hellenic Studies in departments other than Classics, must be approved by the DUS. Typically, no more than

two courses will be allowed to double-count with a student's major or the college's Core Requirements.

- Though a Senior Thesis is not required for graduation it enables a student to be considered for departmental honors. It is advisable to begin planning for the thesis during the student's junior year. Interested students should identify a potential faculty advisor and discuss their plans with the DUS.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Special Concentration in Modern Greek

The minimum credit requirement for the Hellenic Studies Concentration is 21 credits and includes:

1. Modern Greek language and culture courses (Elementary, Intermediate, Advanced, Cultural Dictionary I & II, Readings in Modern Greek; minimum 8 credits). Students will work with the undergraduate advisor to determine their level of the language.
2. Modern Greek Studies interdepartmental courses (CLGM, CSGM, HSGM; minimum 12 credits). The program of study should be planned as early as possible with the Director of Undergraduate Studies. Students meet with the Director of Undergraduate Studies each semester in order to obtain program approval. Opportunities exist for study abroad in Greece, Cyprus and Turkey for the summer or an academic term for credit. Students work closely with the concentration advisor on the selection of the foreign schools and the transfer of credit.

Students may also wish to write a Senior Thesis which will substitute one Modern Greek Studies interdepartmental seminar. While not required for graduation, the thesis enables a student to be considered for departmental honors. It is advisable to begin planning for the thesis during the student's junior year. Interested students should identify a potential faculty advisor.

## COGNITIVE SCIENCE

**Adviser for Columbia College and School of General Studies students:**

**Professor Brendan Fleig-Goldstein:**  
**[bf2555@columbia.edu](mailto:bf2555@columbia.edu)**

**Department Website:** <https://cogsci.barnard.edu/>  
**Department Assistant:** Maia Bernstein,  
[mbernste@barnard.edu](mailto:mbernste@barnard.edu)  
**Office Location:** 326 Milbank Hall



**Phone Number:** 212-854-4689

**Department Email Address:** cogsci@barnard.edu

Cognitive Science is the cross-disciplinary study of how the mind works, with a focus on perception, reasoning, memory, attention, language, decision-making, motor control, and problem solving. Cognitive scientists often compare minds to computers. In particular, they describe mental processes as computational operations on internal representations. For instance, perception is seen as a representation of the external world that results from sensory stimulation; learning is analyzed as the addition of new representations through interactions with the environment; reasoning is treated as the addition of new representations through operations on existing representations.

Cognitive Science is an interdisciplinary field: it draws on tools and ideas from psychology, neuroscience, linguistics, economics, computer science, and philosophy, with affiliated faculty in each of these disciplines. Psychologists study the computational operations that we use to solve specific tasks; neuroscientists study the implementation of those operations in the brain; linguists study the representations involved in communication; economists study the representations involved in decisions involving uncertainty and reward; computer scientists consider how the processes involved in human cognition fit into a more general theory of computations and a larger space of tasks; and philosophers ask fundamental questions about the nature of representation and computation.

## STUDENT LEARNING OUTCOMES

Cognitive Science majors will gain fluency in computational methods; a capacity for rigorous and careful thought; a broad understanding of the affiliated disciplines; and a deep understanding of cognition.

**Barnard Director:** Professor Ann Senghas

**Columbia Director:** Professor Brendan Fleig-Goldstein

### Steering Committee:

Dima Amso (Psychology, Columbia)  
 Brendan Fleig-Goldstein (Philosophy, Columbia)  
 John McWhorter (Linguistics, Columbia)  
 John Morrison (Philosophy, Barnard)  
 Christopher A.B. Peacocke (Philosophy, Columbia)  
 Ann Senghas (Psychology, Barnard)  
 Lisa Son (Psychology, Barnard)  
 Michael Woodford (Economics, Columbia)  
 Rebecca Wright (Computer Science, Barnard)

### Affiliated Faculty:

Mariam Aly (Psychology, Columbia)  
 Christopher Baldassano (Psychology, Columbia)  
 Peter Balsam (Neuroscience & Behavior; Psychology, Barnard)  
 Akeel Bilgrami (Philosophy, Columbia)  
 BJ Casey (Neuroscience & Behavior, Barnard)

Jessica Collins (Philosophy, Columbia)  
 Lila Davachi (Psychology, Columbia)  
 Mark Dean (Economics, Columbia)  
 Aaron A. Fox (Music, Columbia)  
 David A. Freedberg (Art History & Archaeology, Columbia)

Melissa Fusco (Philosophy, Columbia)  
 Michelle Greene (Psychology, Barnard)  
 Larisa Heiphetz (Psychology, Columbia)  
 Mariusz S. Kozak (Music, Columbia)  
 Niko Kriegeskorte (Psychology, Columbia)  
 Karen Lewis (Philosophy, Barnard)  
 Caroline Marvin (Psychology, Columbia)  
 Koleen McCrink (Psychology, Barnard)  
 Janet Metcalfe (Psychology, Columbia)  
 Kevin Ochsner (Psychology, Columbia)  
 Christos Papadimitriou (Computer Science, Columbia)  
 Robert Remez (Psychology, Barnard)  
 Daphna Shohamy (Psychology, Columbia)  
 Rae Silver (Psychology, Columbia)  
 Alfredo Spagna (Psychology, Columbia)  
 Herbert Terrace (Psychology, Columbia)  
 Nim Tottenham (Psychology, Columbia)  
 Carl Vondrick (Computer Science, Columbia)  
 Alex White (Neuroscience and Behavior, Barnard)  
 Keren Yarhi-Milo (Political Science, Columbia)

Cognitive science is the cross-disciplinary study of how the mind works, with a focus on perception, reasoning, memory, attention, language, decision-making, motor control, and problem solving. It draws on tools and ideas from psychology, neuroscience, linguistics, economics, computer science, and philosophy. The major requirements are designed to provide breadth in the affiliated disciplines and depth in the student's chosen area of specialization.

A major in Cognitive Science consists of seven required courses and four electives in a chosen area of specialization culminating in the senior capstone. The minimum number of courses is 13 and the minimum number of points is 39.

## MAJOR REQUIREMENTS:

### 1. Required courses (7 classes)

- COGS UN1001 Introduction to Cognitive Science  
Introduction to Cognitive Science
- One cognition-focused course in each of four areas: psychology, neuroscience, philosophy, and linguistics. *Courses must be chosen from the approved list in each area; please see the approved lists below.*
- Two courses in a fifth area: mathematical and computational methods. *Courses must be chosen from the approved list and not be redundant; please see the approved lists below.*



## 2. Area of Specialization and Electives (four classes)

Students must choose an area of specialization and four electives to build expertise in that area.

- Sample specializations: aesthetics, cognitive development, cognitive linguistics, cognitive neuroscience, cognitive psychology, consciousness, decision science, human-computer interaction, intelligence, learning, memory, natural language processing, neuroeconomics, perception, and social cognition. Please see below for lists of possible electives for these specializations.
- The choice of specialization is flexible; the sample specializations are just examples. This is an opportunity for students to be creative; a student who has ideas about a new specialization that they would like to pursue may do so with the approval of the program director.
- There must be at least one faculty member affiliated with the program who has expertise in the student's chosen area so that they can ensure that the student's electives will provide sufficient preparation for the senior project.

## 3. Senior Capstone

Students may fulfill the Senior Capstone requirement in two ways: with a year-long senior project, or by taking two additional advanced courses.

- The senior project is a year-long project in a student's area of specialization under the supervision of a chosen advisor. The project could be an experiment or a paper. Please note that a student who wishes to do a senior project is responsible for finding an advisor for the project, though the program director may be able to suggest faculty members whom the student might contact.
  - Students who do senior projects must register for both COGS UN3903 Senior Project (3 points) and COGS UN3901 Senior Project Seminar (1 point) in the fall and COGS UN3904 Senior Project (3 points) and COGS UN3902 Senior Project Seminar (1 point) in the spring (8 points total).
- The Senior Project Seminar is an opportunity for students to present their projects to each other.
- While a year-long project is recommended, students may also satisfy the senior capstone requirement by taking two advanced courses, at least one of which must include a significant paper or project. The courses must be chosen in consultation with the program director and must be related to the student's area of specialization. Both courses should be at the 3000-level or above.

**The area of specialization, electives, and capstone must form a coherent course of study and must be approved by the program director.**

Please note:

- Courses taken pass/fail may not count towards Cognitive Science major requirements.
- While some courses listed under the sample specializations are also on the lists of courses approved to count for area requirements, no course may be double counted: if a student is counting a course for an area requirement, then that course may not be counted as an elective.

## COURSES APPROVED TO COUNT IN EACH AREA:

### Psychology

PSYC BC2107	PSYCHOLOGY OF LEARNING - LEC
PSYC BC2110	PERCEPTION-LECTURE
PSYC BC2115	COGNITIVE PSYCHOLOGY - LEC
PSYC BC2129	DEVELOPMENTAL PSYCHOLOGY-LEC
PSYC UN2210	COGNITION: BASIC PROCESSES
PSYC UN2220	COGNITION: MEMORY AND STRESS
PSYC UN2270	Perception and Cognition in Social Life
PSYC UN2280	Developmental Psychology
PSYC UN2430	COGNITIVE NEUROSCIENCE
PSYC BC3394	METACOGNITION

*Please note that PSYC UN2430 Cognitive Neuroscience may be used to fulfill either the Neuroscience requirement or the Psychology requirement, but not both.*

### Neuroscience

NSBV BC1001	INTRODUCTION TO NEUROSCIENCE
NSBV BC2008	ADAPTIVE OR ARRESTED DEVELOPMENT OF THE ADOLESCENT BRAIN
PSYC UN2430	COGNITIVE NEUROSCIENCE
PSYC UN2435	Social Neuroscience
PSYC UN2450	BEHAVIORAL NEUROSCIENCE
PSYC UN2481	Developmental Cognitive Neuroscience
NSBV BC3381	Visual Neuroscience: From the Eyeball to the Mind's Eye

*Please note that PSYC UN2430 Cognitive Neuroscience may be used to fulfill either the Neuroscience requirement or the Psychology requirement, but not both.*

## Philosophy

PHIL UN2655	COGNITIVE SCIENCE AND PHILOSOPHY
PHIL UN3252	Philosophy of Language and Mind
PHIL UN3651	PHILOSOPHY OF MIND
PHIL UN3655	TOPICS IN COGNITIVE SCIENCE AND PHILOSOPHY
COGS UN3952	Philosophy of Computing

*Please note that only the "Perception" section of PHIL UN3912 counts.*

## Linguistics

LING UN3101	INTRODUCTION TO LINGUISTICS
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## Mathematical and Computational Methods

Logic and Decision Theory:

ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
PHIL UN1401	INTRODUCTION TO LOGIC
PHIL UN3411	SYMBOLIC LOGIC
PHIL GU4561	PROBABILITY # DECISION THEORY
PSYC UN2235	THINKING AND DECISION MAKING

Statistics:

ECON BC1007	MATH METHODS FOR ECONOMICS
ECON BC2411	STATISTICS FOR ECONOMICS
PSYC BC1101	STATISTICS LECTURE AND RECITATION
PSYC UN1610	STATISTICS-BEHAVIORAL SCIENTISTS
STAT UN1001	INTRO TO STATISTICAL REASONING
STAT UN1101	INTRODUCTION TO STATISTICS
STAT UN1201	CALC-BASED INTRO TO STATISTICS

Computer Science:

COMS BC1016	Introduction to Computational Thinking and Data Science
COMS W1001	Introduction to Information Science
COMS W1002	COMPUTING IN CONTEXT
COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1007	
COMS W3134	Data Structures in Java
COMS W3136	ESSENTIAL DATA STRUCTURES
COMS W3137	HONORS DATA STRUCTURES # ALGOL
ENGI E1006	INTRO TO COMP FOR ENG/ APP SCI
STEM BC2223	PROGRAMMING BEHAV SCIENCES

## SAMPLE SPECIALIZATIONS

*Please note that while a few of the courses listed below are on the lists of courses approved to count for area requirements, no course may be double counted: if a student uses a course to fulfill an area requirement then that course may not be counted as an elective.*

### Aesthetics

4 of the following:

MUSI UN2320	Introduction to Music Cognition
SOAR AV4000	SOUND:Music, Math, and Mind
PHIL GU4055	
PSYC GU4239	COG NEURO NARRATIVE FILM
MUSI GU4325	Topics in Music Cognition
CLEN GU4728	Literature in the Age of AI

### Cognitive Development

4 of the following:

PSYC BC2115	COGNITIVE PSYCHOLOGY - LEC
PSYC BC2129	DEVELOPMENTAL PSYCHOLOGY-LEC
PSYC UN2481	Developmental Cognitive Neuroscience
PSYC BC3369	LANGUAGE DEVELOPMENT
PSYC GU4202	Theories of Change in Human Development

PSYC GU4222	The Cognitive Neuroscience of Aging (Seminar)
PSYC GU4498	BEHAVIORAL EPIGENETICS

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## Cognitive Linguistics

4 of the following:

ANTH UN1009	INTRO TO LANGUAGE # CULTURE
PSYC BC3164	PERCEPTION AND LANGUAGE
PHIL UN3252	Philosophy of Language and Mind
PSYC BC3369	LANGUAGE DEVELOPMENT
LING GU4202	COGNITIVE LINGUISTICS
LING GU4206	ADV GRAMMAR AND GRAMMARS
PSYC GU4244	LANGUAGE AND MIND
LING GU4376	PHONETICS # PHONOLOGY

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## Cognitive Neuroscience

4 of the following:

PSYC UN2481	Developmental Cognitive Neuroscience
NSBV BC3405	NEUROSCIENCE OF TRAUMA
PSYC GU4225	CONSCIOUSNESS # ATTENTION
PSYC GU4239	COG NEURO NARRATIVE FILM
PSYC GU4415	METHODS/ISSU-COGNITIV NEU
PSYC GU4498	BEHAVIORAL EPIGENETICS

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## Cognitive Psychology

4 of the following:

PSYC BC2115	COGNITIVE PSYCHOLOGY - LEC
PSYC BC2129	DEVELOPMENTAL PSYCHOLOGY-LEC
PSYC UN2220	COGNITION: MEMORY AND STRESS
PSYC BC3164	PERCEPTION AND LANGUAGE
PSYC BC3394	METACOGNITION

PSYC GU4225	CONSCIOUSNESS # ATTENTION
PSYC GU4672	MORAL PSYCHOLOGY

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## Consciousness

4 of the following:

PSYC UN2210	COGNITION: BASIC PROCESSES
PHIL UN3651	PHILOSOPHY OF MIND
PSYC GU4225	CONSCIOUSNESS # ATTENTION
PSYC GU4244	LANGUAGE AND MIND

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## Decision Science

4 of the following:

PSYC BC2178	FORENSIC PSYCHOLOGY
PSYC UN2235	THINKING AND DECISION MAKING
PSYC UN2620	ABNORMAL BEHAVIOR
PSYC GU4202	Theories of Change in Human Development
PSYC GU4241	Mentalizing: How we read people
PSYC GU4430	Learning and the Brain (Seminar)
COGS GU4800	Resource-Constrained Decision Making

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## Human-Computer Interaction

4 of the following:

PSYC UN3270	COMPUT APPROACHES- HUMAN VISION
PSYC BC3399	HUMAN AND MACHINES
COMS W4170	USER INTERFACE DESIGN
IEME E4200	HUMAN-CENTERED DESIGN AND INNOVATION
PSYC GU4236	Machine Intelligence
COMS E6178	Human-Computer Interaction

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## Intelligence

4 of the following:

PSYC GU4236	Machine Intelligence
COMS W4701	ARTIFICIAL INTELLIGENCE

COMS W4705	NATURAL LANGUAGE PROCESSING
COMS W4771	MACHINE LEARNING
PSYC GR6080	Introduction to Neural Networks and Deep Learning

## Learning

4 of the following:

PSYC BC2107	PSYCHOLOGY OF LEARNING - LEC
COMS W4705	NATURAL LANGUAGE PROCESSING
COMS W4771	MACHINE LEARNING
PSYC GR6080	Introduction to Neural Networks and Deep Learning

## Memory

4 of the following:

PSYC BC2107	PSYCHOLOGY OF LEARNING - LEC
PSYC UN2220	COGNITION: MEMORY AND STRESS
PSYC UN3445	THE BRAIN AND MEMORY
PSYC UN3455	Neurobiology of Working Memory

## Natural Language Processing

4 of the following:

LING UN3103	Language, Brain and Mind
PHIL UN3252	Philosophy of Language and Mind
PSYC GU4236	Machine Intelligence
PSYC GU4242	Evolution of Language (seminar)
COMS W4705	NATURAL LANGUAGE PROCESSING

## Neuroeconomics

1. Either:

ECON BC3035	INTERMEDIATE MICROECONOMICS
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Or:

ECON UN3211	INTERMEDIATE MICROECONOMICS
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2. Either:

ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
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Or:

ECON GU4415	GAME THEORY
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3. Two from the following list:

PSYC UN2235	THINKING AND DECISION MAKING
ECON BC3048	Introduction to Behavioral Economics
PSYC GU4287	DECISION ARCHITECTURE
ECON GU4840	BEHAVIORAL ECONOMICS
ECON GU4860	BEHAVIORAL FINANCE (4.)
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR

4.

PSYC GU4289	THE GAMES PEOPLE PLAY: PSYCH OF STRAT DEC
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## Perception

4 of the following:

PSYC BC2110	PERCEPTION-LECTURE
PSYC BC3164	PERCEPTION AND LANGUAGE
NSBV BC3381	Visual Neuroscience: From the Eyeball to the Mind's Eye
NSBV BC3389	Hallucinations, illusions, dreaming and imagination
PSYC GU4225	CONSCIOUSNESS # ATTENTION
PSYC GU4280	CORE KNOWLEDGE

## Social Cognition

4 of the following:

ANTH UN2004	INTRO TO SOC # CULTURAL THEORY
PSYC UN2435	Social Neuroscience
PSYC UN2630	SOCIAL PSYCHOLOGY
PSYC UN2640	INTRO TO SOCIAL COGNITION

# COMPARATIVE LITERATURE AND SOCIETY

## THE INSTITUTE FOR COMPARATIVE LITERATURE AND SOCIETY:

Department website: <https://icls.columbia.edu/>

Office location: B101 Heyman Center

Office contact: 212-854-8850, [icls@columbia.edu](mailto:icls@columbia.edu)

Director of Undergraduate Studies: Tadas Bugnevičius, [tb2333@columbia.edu](mailto:tb2333@columbia.edu)

Director of Medical Humanities: Rishi K. Goyal, [rkg6@cumc.columbia.edu](mailto:rkg6@cumc.columbia.edu)

Undergraduate Administrator: Tomi Haxhi, [th2666@columbia.edu](mailto:th2666@columbia.edu)

## COMPARATIVE LITERATURE AND SOCIETY AND MEDICAL HUMANITIES MAJORS

The major in Comparative Literature and Society (CLS) allows qualified students to study literature, culture, and society with reference to material from several national traditions, or in combination of literary study with comparative study in other disciplines in the humanities and social sciences. The program is designed for students whose interest and expertise in languages other than English permit them to work comparatively in several national or regional cultures. The course of study differs from that of traditional comparative literature programs, both in its cross-disciplinary nature and in its expanded geographic range, including not just European, but also Asian, Middle Eastern, African, and Latin American cultures. Students will thus explore a variety of methodological and disciplinary approaches to cultural and literary artifacts in the broadest sense. The cross-disciplinary range of the program includes visual and media studies; the law and the humanities; and studies of space, cities, and architecture.

ICLS also offers a major in Medical Humanities (MedHum). At the level of the individual patient, medicine and medical systems diagnose and treat disease to prolong life and to diminish the suffering that accompanies illness. But in many societies, the reach of modern biomedicine far exceeds the intimate zone of patient and caregiver encompassed by this model. From climate change and food activism to city planning and public housing, from family planning and surrogacy to gendered and racial identities, the biomedical

model of health now underwrites national and supra-state policies, corporate ventures, targets of social and political activism and modes of individual engagement. Students enrolled in the Medical Humanities major work at the intersection of these different forces and discourses, examining the many factors, from the biological to the social, economic, political and aesthetic, that influence health and shape our perceptions of physical and psychological well-being.

Both majors require an application. Please see the admissions details on [our website](#).

## STUDENT ADVISING

Director of Undergraduate Studies: Tadas Bugnevičius, [tb2333@columbia.edu](mailto:tb2333@columbia.edu)

Director of Medical Humanities: Rishi K. Goyal, [rkg6@cumc.columbia.edu](mailto:rkg6@cumc.columbia.edu)

Undergraduate Administrator: Tomi Haxhi, [th2666@columbia.edu](mailto:th2666@columbia.edu)

## Consulting Advisers

Students intending to seek admission to the Comparative Literature and Society major are encouraged to speak as soon as possible to the Director of Undergraduate Studies (DUS), Tadas Bugnevičius ([tb3111@columbia.edu](mailto:tb3111@columbia.edu)). Students intending to seek admission to the Medical Humanities major are encouraged to speak as soon as possible to the Director of Medical Humanities, Rishi Goyal, ([rkg6@cumc.columbia.edu](mailto:rkg6@cumc.columbia.edu)) and the Director of Undergraduate Studies, Tadas Bugnevičius ([tb3111@columbia.edu](mailto:tb3111@columbia.edu)).

Students enroll in either major at the beginning of the spring semester of the sophomore year by completing the admissions form that can be found on [our website](#) and submitting the completed form along with a transcript and one-page statement of academic interests.

In the fall semester, students are invited to attend a Meet-n-Greet, an informal discussion with current and prospective majors, our DUS and our Director of Medical Humanities.

## Enrolling in Classes

The ICLS majors require that you take the Intro course (CPLS V3900) in the spring semester of your sophomore year, and the Senior Seminar (CPLS V3991) in the fall semester of your senior year. Enrollment in the Intro course requires that you have already applied to the major or concentration. When it comes time to register, add the course to your waitlist and you will be admitted by a member of the ICLS team.



## Preparing for Graduate Study

CLS majors often apply to PhD programs and occasionally to MA programs in Humanities and Social Sciences. All students should meet with the Director of Undergraduate Studies, Tadas Bugnevicius, to discuss their plans for graduate studies as early as they can.

Medical Humanities majors often pursue graduate studies. Students apply to medical school, master's programs in public health and PhD programs in the Sciences, Humanities and Social Sciences. Premedical students should meet with their pre-medical advisor. All students should meet with the Director of Medical Humanities, Rishi Goyal, to discuss their plans for graduate studies as early as they can.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Coursework in fulfillment of a major or minor must be taken at Columbia University unless explicitly noted here and/or expressly permitted by the Director of Undergraduate Studies of the program. Exceptions or substitutions permitted by the Director of Undergraduate Studies should be confirmed in writing by email to the student.

### Advanced Placement

ICLS does not accept any advanced placement credit toward courses in our curriculum.

### Barnard College Courses

Barnard courses 3000-level and above are considered for this major with the exception of the Barnard Introduction to Comparative Literature. That course cannot be substituted for our required Introduction to Comparative Literature and Society. Students should consult with the DUS on their course schedule to ensure the courses they choose will meet their course requirements.

### Transfer Courses

When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit (e.g., to confirm that the courses will count toward the 124 points of credit that every student is required to complete for the B.A. degree). Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major at ICLS.

### Study Abroad Courses

Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Undergraduate Global Engagement and taught by Columbia instructors) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus. If they are not explicitly listed by ICLS as fulfilling requirements in the major, the DUS will

need to confirm that they can be used toward requirements in the major.

Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia and are subject to the same policies as other transfer courses. There will be a limit on the number of courses taken abroad that can be applied to the major, and they must be approved by the DUS.

### Summer Courses

Summer courses at Columbia are offered through the School of Professional Studies. Courses taken in a Summer Term may be used toward requirements for the major only as articulated in department/institute/center guidelines or by permission of the Director(s) of Undergraduate Studies. More general policies about summer coursework can be found in the Academic Regulations section of this Bulletin.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

The ICLS majors teach students critical theory and interdisciplinary thinking that are applicable to many areas of knowledge. The required Intro course (CPLS V3900) introduces students to theoretical and interdisciplinary methods. The required Senior Seminar (CPLS V3991) introduces students to contemporary theoretical debates and is based on current research interests of ICLS faculty. Students are also given an opportunity to develop an independent research project. The optional Senior Thesis workshop (CPLS 3995) is fully dedicated to advanced independent research.

### Senior Thesis Coursework and Requirements

The senior thesis is optional. If you want to be considered for departmental honors, it is required. It is a piece of scholarly research, the model for which is an academic journal article. A translation or a piece of creative work, such as a piece of creative writing, can be submitted with the prior approval of the DUS, and must be accompanied by an explanatory introduction or foreword of no less than 5000 words in length.

Students interested in writing a senior thesis will submit a thesis proposal in the spring semester of their junior year. Students who decide to write a thesis will enroll in a year-long course (CPLS3995) starting in the fall of their senior year. Detailed information can be found on [our website](#).

## DEPARTMENT HONORS AND PRIZES

### Department Honors

To be eligible for departmental honors students must have a minimum grade point average of 3.6 for courses in the major. Departmental honors will be conferred only on students who have submitted a superior senior thesis that clearly demonstrates originality and excellent scholarship. Please note that the senior thesis is not required for the major. Please keep in mind that, according to Columbia College rules, no more than 10% of the majors graduating in a department or program in a given year may be awarded Departmental Honors.

### Academic Prizes

Each year, ICLS presents one to two seniors with the Catherine Medalia Johannet Memorial Prize in Comparative Literature and Society. These prizes were created by family and friends in memory of Catherine Medalia Johannet, a Medicine, Literature and Society major, CC'15, consistent with Catherine's interest in literature and its use in effecting change in society.

One to two prizes will be awarded annually to a Comparative Literature & Society or Medical Humanities major who has written a distinguished senior thesis that demonstrates the highest academic rigor, creativity and engagement with ethical questions. The winner will be chosen by a faculty committee consisting of the Director of Undergraduate Studies, the Director of the Medical Humanities major and two other faculty members associated with ICLS.

CLS majors in the School of General Studies for the John Angus Burrell Memorial Prize for distinction in English and Comparative Literature.

## OTHER IMPORTANT INFORMATION

**CLS Foreign Language Requirement:** Since students are expected to be able to conduct basic research in a foreign language they must, by the time they apply, meet the following foreign language requirement:

Foreign Language #1: you must have taken or be taking in the spring semester of your sophomore year, at least one advanced course in a foreign language. The course should be taken at Columbia, Barnard or a peer institution. 'Advanced' signifies a course at the 3000- or 4000- level that is not a conversation course. The course does not have to be conducted in the target language but most of the readings must be in the language.

Foreign language #2: you must have completed or be completing in the spring semester of your sophomore year, the equivalent of least 4 semesters of a foreign language. This can be satisfied by either 4 semesters in one language or 2 semesters each in 2 different languages. These four semesters may be taken at Columbia or reflected in AP scores, summer program credits, etc. Native and heritage speakers must take a placement test to confirm their level unless they have completed high school in the foreign language.

**MedHum Foreign Language Requirement:** Students must have taken at Columbia or be taking during the spring semester of the sophomore year at least one advanced course in a foreign language. 'Advanced' signifies a course at the 3000- or 4000- level that is not primarily a language training course. Note that the course does not have to be conducted in the language but most of the readings must be in the language. An additional advanced language course will be required as part of your major course requirements.

**Executive Committee of ICLS** Nadia Abu El-Haj (Anthropology, Center for Palestine Studies) Tadas Bugnevicius (French and ICLS) Bruno Bosteels (Latin American and Iberian Cultures) Claudia Breger (Germanic Languages) Souleymane Bachir Diagne (French and Romance Philology) Madeleine Dobie (French and Romance Philology) Brent Hayes Edwards (English and Comparative Literature, Jazz) Matthew Engelke (Religion) Kevin A. Fellezs (Music) Stathis Gourgouris (Classics, English and Comparative Literature) Rishi Kumar Goyal (Emergency Medicine) Seth Kimmel (Latin American and Iberian Cultures) Adam Leeds (Slavic Languages) Lydia H. Liu (East Asian Languages and Cultures) David B. Lurie (East Asian Languages and Cultures) Anupama P Rao (History, Barnard) Pamela Smith (History and Center for Science and Society) Gayatri Chakravorty Spivak (University Professor of the Humanities) Dennis Tenen (English and Comparative Literature)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Students who entered Columbia (as first-year students or as transfer students) in or after Fall 2024 may select from a curriculum of majors and minors. The requirements for the Bachelor of Arts degree, and role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Students who entered Columbia in or before Fall 2023 may select from a curriculum of majors and minors and concentrations. The requirements for the Bachelor of Arts degree, and the role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Students should consult the Admissions information on the Institute for Comparative Literature and Society website for details on the application requirements. Students are also encouraged to attend the annual Undergraduate Meet-n-Greet held in October. Consult the events page of our website or contact [icls@columbia.edu](mailto:icls@columbia.edu) for details on this meeting which is open to all prospective majors.

## Course Numbering Structure

Courses at the Institute for Comparative Literature and Society have the subject code CPLS - Comparative Literature and Society, or CLPS - Comparative Literature and Psychoanalytic Study. Additionally, the Institute cross-lists courses from our affiliated faculty each semester. These courses can be found on the Directory of Classes under our departmental page. For our majors, all coursework should be 3000-level or above. Lectures at the 2000-level are only accepted within coursework with special permission from the DUS. All coursework in these interdisciplinary majors should be approved by the DUS prior to the end of the change period.

## Guidance for First-Year Students

Prospective majors should focus their efforts on meeting the language requirements for our major.

For Comparative Literature and Society Majors:

Foreign Language #1: you must have taken or be taking in the spring semester of your sophomore year, at least one advanced course in a foreign language. The course should be taken at Columbia, Barnard or a peer institution. 'Advanced' signifies a course at the 3000- or 4000- level that is not a conversation course. The course does not have to be conducted in the target language but most of the readings must be in the language.

Foreign language #2: you must have completed or be completing in the spring semester of your sophomore year, the equivalent of at least 4 semesters of a foreign language. This can be satisfied by either 4 semesters in one language or 2 semesters each in 2 different languages. These four semesters may be taken at Columbia or reflected in AP scores, summer program credits, etc. Native and heritage speakers must take a placement test to confirm their level unless they have completed high school in the foreign language.

## For Medical Humanities Majors:

Foreign Language Requirement: Students must have taken at Columbia or be taking during the spring semester of the sophomore year at least one advanced course in a foreign language. 'Advanced' signifies a course at the 3000- or 4000- level that is not primarily a language training course. Note that the course does not have to be conducted in the language but most of the readings must be in the language. An additional advanced language course will be required as part of your major course requirements.

For less commonly taught languages, students should consult with the DUS to determine how to meet the advanced language course requirement.

## Guidance for Transfer Students

Transfer students should consult with the DUS upon arrival at Columbia University to prepare their application for the major. They should not wait until the usual application period. The Introduction to Comparative Literature and Society course (CPLS UN3900) should be taken during their first spring term at Columbia University.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

The ICLS majors require that you take the Intro course (CPLS UN3900) in the spring semester of your sophomore year, and the Senior Seminar (CPLS UN3991) in the fall semester of your senior year. Enrollment in the Intro course requires that you have already applied to the major or concentration. When it comes time to register, add the course to your waitlist and you will be admitted by a member of the ICLS team.

### Major in Comparative Literature and Society

The major in Comparative Literature and Society consists of a minimum of 33 points or 11 courses, distributed as follows. Courses taken to fulfill the application requirements do not count toward the major. Courses fulfilling major requirements must be advanced, discussion-based seminars. Language courses in the Beginner I to Intermediate II stream cannot be counted to fulfill any major requirement. With the exception of courses taken to satisfy the global core requirement, double counting of courses to the CPLS major and another program or university requirement must be pre-approved by the DUS.

1. Introduction to ICLS (CPLS UN3900), taken in the spring of the sophomore year (3 points)

2. Two courses with a CPLS designator. CLXX courses, i.e. courses cross-listed between ICLS and other departments, may also be counted toward this requirement (6-8 points)
3. Two seminars in a humanities or social science discipline other than literature (e.g. Architecture, Anthropology, Art History, Economics, Gender & Sexuality Studies, History, Law, Linguistics, Music, Political Science, Race & Ethnicity Studies, Sociology...). The two courses must be grounded in the same disciplinary approach but don't have to be offered by the same department or program (6-8 points)
4. Two courses requiring readings in a language other than English. (The two courses cannot be taken in the same foreign language) (6-8 points)
5. Two courses focusing on a specific national or regional literature or culture, chosen from any discipline (The two courses may focus on the same nation/region) (6-8 points)
6. One elective course reflecting the student's intellectual interests. Additional foreign language study may also be counted with DUS approval (3-4 points)
7. Senior Seminar in Comparative Literature and Society (CPLS UN3991).

The senior seminar is taken in the fall semester of the senior year. Students explore three areas of contemporary reflection in the field of comparative literature and society. Topics change yearly and are aligned with current ICLS research projects. Recent examples include Global Racisms, Literary Cultures, Digital Humanities, and Medical Humanities.

1. (Optional) Senior Thesis (CPLS 3995) (3 points)

Students who decide to write a thesis will submit a proposal in the spring term of their junior year and enroll in a year-long course (CPLS UN3995) starting in the fall of their senior year. This year-long, 3-credit course (1 credit in Fall, 2 credits in Spring) will allow students to receive academic credits for their thesis, and to count the thesis towards completion of their major requirement when necessary (Requirement #10 of the CLS Course Chart).

Students should consult frequently with the DUS to ensure that their program of study develops in consonance with the intellectual project described in the focus statement that was presented as part of the admissions process. The faculty understands that this statement is itself a work in progress, but also that it serves as a useful guide to the student's academic pursuits and course selection.

Comparative Literature and Society majors should also consider the Barnard College course offerings in

Comparative Literature. They are also strongly encouraged to avail themselves of the opportunity to study abroad.

## Major in Medical Humanities

The major in Medical Humanities consists of a minimum of 33 points or 11 courses, distributed as follows.

1. Introduction to Comparative Literature & Society (CPLS UN3900): 3 points

This course introduces important methodologies and areas of disciplinary reflection in contemporary comparative literature. It is taken jointly with comparative literature and society majors taken in the spring semester of a student's sophomore year. In addition to units on narrative, authorship and the history and practice of comparative and world literature it includes units relating to science, health and medicine, race, gender and sexuality that are directly relevant to MedHum majors.

1. 1 course with a CPLS or CL- course identifier: 3-4 points

Students choose from among the wide range of courses sponsored by the Institute for Comparative Literature and Society or cross-listed between ICLS and other departments. These offerings change every semester and are listed on the ICLS website.

2. 1 course with readings in a language other than English: 3-4 points

Students may either take a course that is taught wholly or partially in a foreign language, or a course taught in English for which they have received approval to do most of the reading in a foreign language.

3. 3 courses that form the disciplinary/methodological nexus of the student's interests: 9-12 points

Students will develop an individualized course of study at the nexus of health, society and the humanities in discussion with the DUS (Some example of prior constellations include but are not limited to: Literature and Medicine; Narrative Medicine; Medical Anthropology; History of Medicine; Comparative Public Health; Disability studies; Neuroscience; Biopolitics; Bioethics.)

4. 2 required core courses in Medical Humanities: 6 points

The core courses in medical humanities are designated as any course taught by faculty on the medical humanities advisory board that emphasizes the content, methods, theories, and approaches of the medical humanities. Please confirm with the Director of Medical Humanities if you have any questions



5. 2 classes in the biological or biochemical sciences: 6-8 points

Students in the MedHum major should be versed in contemporary and classical debates and knowledge in the biological sciences. Students may take any two biology or biochemistry classes that relate to fundamental concepts in human biology.

6. Senior Seminar at ICLS: 3 points

The senior seminar is taken in the fall semester of the senior year. Students explore three areas of contemporary reflection in the field of comparative literature and society. Topics change yearly and are aligned with current ICLS research projects. Recent examples include Global Racisms, Literary Cultures, Digital Humanities, and Medical Humanities.

7. Senior Thesis (optional): 3 pts

Students who decide to write a thesis will submit a proposal in the spring semester of their junior year and enroll in a year-long course (CPLS UN3995) starting in the fall of their senior year. This year-long, 3-credit course (1 credit in Fall, 2 credits in Spring) will allow students to receive academic credits for their thesis, and to count the thesis towards completion of their major requirement when necessary.

The specific course of study must be approved by the DUS.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Comparative Literature and Society

PLEASE NOTE: this information is for students already in the program. The concentration is no longer accepting new students as of Fall 2024.

The concentration in Comparative Literature and Society consists of a minimum of 27 points or 9 courses, distributed as follows. Please note that courses taken to fulfill the application requirements do not count toward the major. Courses fulfilling concentration requirements must be advanced, discussion-based seminars. Language courses in the Beginner I to Intermediate II stream cannot be counted to fulfill any concentration requirement. With the exception of courses taken to satisfy the global core requirement, any double counting of courses to the CPLS concentration and another program or university requirement must be approved by the DUS.

1. Introduction to ICLS (CPLS UN3900), taken in the spring of the sophomore year (3 points).

2. Two courses with a CPLS designator. CL- courses, i.e. courses cross-listed between ICLS and other departments, may also be counted toward this requirement (6-8 points)

3. Two seminars in a humanities or social science discipline other than literature (e.g. Architecture, Anthropology, Art History, Economics, Gender & Sexuality Studies, History, Law, Linguistics, Music, Political Science, Race & Ethnicity Studies, Sociology...). The two courses must be grounded in the same disciplinary approach but don't have to be offered by the same department or program (6-8 points)

4. Two courses requiring readings in a language other than English (the two courses cannot be taken in the same foreign language) (6-8 points)

5. One course focusing on a specific national or regional literature or culture, chosen from any discipline (3-4 points)

6. Senior Seminar in Comparative Literature and Society (CPLS UN3991)

The senior seminar is taken in the fall semester of the senior year. Students explore three areas of contemporary reflection in the field of comparative literature and society. Topics change yearly and are aligned with current ICLS research projects. Recent examples include Global Racisms, Literary Cultures, Digital Humanities, and Medical Humanities.

7. (Optional) Senior Thesis (CPLS UN3995) (3 points)

Students who decide to write a thesis must submit a proposal spring semester of their junior year and enroll in a year-long course (CPLS3995) starting in the fall semester of their senior year. This year-long, 3-credit course (1 credit in Fall, 2 credits in Spring) will allow students to receive academic credits for their thesis, and to count the thesis towards completion of their requirements when necessary.

Students should consult frequently with the DUS to ensure that their program of study develops in consonance with the intellectual project described in the focus statement that was presented as part of the admissions process. The faculty understands that this statement is itself a work in progress, but also that it serves as a useful guide to the student's academic pursuits and course selection.

Comparative Literature and Society concentration students should also consider the Barnard College course offerings in Comparative Literature. They are also strongly encouraged to avail themselves of the opportunity to study abroad.



## COMPUTER SCIENCE THE COMPUTER SCIENCE DEPARTMENT:

Department website: <https://www.cs.columbia.edu>

Office location: 450 Mudd

Office contact: [ug-advising@cs.columbia.edu](mailto:ug-advising@cs.columbia.edu)

Director of Undergraduate Studies: Dr. Jae Woo Lee, 715  
CEPSR; 212-939-7066; [jae@cs.columbia.edu](mailto:jae@cs.columbia.edu)

Undergraduate Administrator: CS Advising, [ug-advising@cs.columbia.edu](mailto:ug-advising@cs.columbia.edu)

## THE COMPUTER SCIENCE MAJOR

Students study a common core of fundamental topics, supplemented by a program of six electives that provides a high degree of flexibility. Three of the electives are chosen from a list of upper-level courses that represent area foundations within computer science. The remaining electives are selected from the complete list of upper-level computer science courses. Students are encouraged to work with their faculty advisor to create a plan tailored to fit their goals and interests. The department webpage provides several example programs for students interested in a variety of specific areas in computer science.

Our website is always the most current in terms of information and has many FAQs for students. Please view this here: [cs.columbia.edu](https://cs.columbia.edu) and contact [ug-advising@cs.columbia.edu](mailto:ug-advising@cs.columbia.edu) with any questions.

## STUDENT ADVISING

### Consulting Advisers

Undergraduate students will be assigned a CS Faculty Advisor from the list on the CS website - <https://www.cs.columbia.edu/education/undergraduate/advisors/>. Students will typically have the same advisor throughout their time in the program. However, students are encouraged to check this list at the start of every term to ensure their advisor remains the same. To reach out to your CS Faculty Advisor, please email first or visit during office hours.

### Enrolling in Classes

Computer Science Department courses are needed by many student populations and are in high demand. To facilitate all COMS students getting the courses they need and distribute seats fairly, please refer to our policy - <https://www.cs.columbia.edu/cs-course-registration-policy/>

### Preparing for Graduate Study

The department offers a number of options at the graduate level, including the MS Express. Please refer to our FAQs

- <https://www.cs.columbia.edu/education/admissions8/> - or email [ms-admissions@cs.columbia.edu](mailto:ms-admissions@cs.columbia.edu) with any questions.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The department grants 3 points for a score of 4 or 5 on the AP Computer Science A exam, along with an exemption from COMS W1004 Introduction to Computer Science and Programming in Java. However, we recommend that you take COMS W1004 before taking COMS W3134/W3137 Data Structures if you received a score of 4 or have not programmed in Java recently.

### Barnard College Courses

Any course offered by the Computer Science @Barnard department can count towards degree requirements. Please refer to the major and minor program information pages for specific information.

### Transfer Courses

Up to four transfer courses are accepted toward the major. Up to two transfer courses are accepted toward the minor. Calculus, linear algebra, and probability/statistics courses can be transferred in addition to the four/two-course limits. Each course must be approved as equivalent by the faculty who teaches it at Columbia. Please refer to the guide here - <https://www.cs.columbia.edu/education/undergraduate/#sec8>

### Study Abroad Courses

If you are considering studying abroad, please consult with the CS Advisor as soon as possible. Each course for potential incorporation into your CS major or minor must be approved as equivalent by the faculty who teaches it at Columbia.

### Summer Courses

Any Computer Science or approved cognate course offered during the summer session will count towards the degree, with the exception of online-only courses, which do not count towards degree requirements.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

**COMS W3998 UNDERGRAD PROJECTS IN  
COMPUTER SCIENCE. 1.00-3.00 points.**

Prerequisites: Approval by a faculty member who agrees to supervise the work.

Independent project involving laboratory work, computer programming, analytical investigation, or engineering design. May be repeated for credit. Consult the department for section assignment.

**COMS W4901 Projects in Computer Science. 1-3 points.**

Prerequisites: Approval by a faculty member who agrees to supervise the work.

A second-level independent project involving laboratory work, computer programming, analytical investigation, or engineering design. May be repeated for credit, but not for a total of more than 3 points of degree credit. Consult the department for section assignment.

**Senior Thesis Coursework and Requirements**

A thesis is not a requirement for the major or minor.

**COMS W3902 UNDERGRADUATE THESIS. 0.00-6.00 points.**

Prerequisites: Agreement by a faculty member to serve as thesis adviser.

An independent theoretical or experimental investigation by an undergraduate major of an appropriate problem in computer science carried out under the supervision of a faculty member. A formal written report is mandatory and an oral presentation may also be required. May be taken over more than one term, in which case the grade is deferred until all 6 points have been completed. Consult the department for section assignment

**Undergraduate Research Outside of Courses****Laboratory Facilities**

The department has well-equipped lab areas for research in computer graphics, computer-aided digital design, computer vision, databases and digital libraries, data mining and knowledge discovery, distributed systems, mobile and wearable computing, natural language processing, networking, operating systems, programming systems, robotics, user interfaces, and real-time multimedia.

Research labs contain several large Linux and Solaris clusters; Puma 500 and IBM robotic arms; a UTAH-MIT dexterous hand; an Adept-1 robot; three mobile research robots; a real-time defocus range sensor; interactive 3-D graphics workstations with 3-D position and orientation trackers; prototype wearable computers, wall-sized stereo projection systems; see-through head-mounted displays; a networking testbed with three Cisco 7500 backbone routers, traffic generators; an IDS testbed with secured LAN, Cisco routers, EMC storage, and Linux servers; and a simulation testbed with several Sun servers and Cisco Catalyst routers.

The department uses a SIP IP phone system. The protocol was developed in the department.

The department's computers are connected via a switched 1Gb/s Ethernet network, which has direct connectivity to the campus OC-3 Internet and internet 2 gateways. The campus has 802.11b/g wireless LAN coverage.

The research facility is supported by a full-time staff of professional system administrators and programmers.

**Participating in Research Projects**

Students can reach out to professors whose research areas are of interest to them. Professors will typically require that students have completed the relevant coursework covering the background knowledge and skills.

Once a faculty member agrees to supervise the student's research work, the student will register for the professor's section of COMS W3998 or W4901.

**COMS W3998 UNDERGRAD PROJECTS IN COMPUTER SCIENCE. 1.00-3.00 points.**

Prerequisites: Approval by a faculty member who agrees to supervise the work.

Independent project involving laboratory work, computer programming, analytical investigation, or engineering design. May be repeated for credit. Consult the department for section assignment

**COMS W4901 Projects in Computer Science. 1-3 points.**

Prerequisites: Approval by a faculty member who agrees to supervise the work.

A second-level independent project involving laboratory work, computer programming, analytical investigation, or engineering design. May be repeated for credit, but not for a total of more than 3 points of degree credit. Consult the department for section assignment.

**DEPARTMENT HONORS AND PRIZES****Department Honors**

The Computer Science Department does not award departmental honors.

**Academic Prizes**

Jonathan L. Gross Award for Academic Excellence: This award was established in 2017 in honor of the much loved Professor Emeritus Jonathan Gross. Each year a cash gift is awarded to one graduating masters student and to one graduating senior from each of the four undergraduate schools served by the Department of Computer Science.

Theodore R. Bashkow Award: Presented to a computer science senior who has excelled in independent projects. This is awarded in honor of Professor Theodore R. Bashkow, whose contributions as a researcher, teacher, and consultant have significantly advanced the state of the art of computer science.

Andrew P. Kosoresow Memorial Award for Excellence in Teaching and Service: Awarded for outstanding contributions to teaching in the Department of Computer

Science and exemplary service to the Department and its mission.

Computer Science Scholarship Award: A cash prize awarded to two B.A. and two B.S. degree candidates for outstanding academic achievement in computer science.

Russell C. Mills Award: This annual award, established by the computer science department in 1992 in memory of Russell C. Mills, is a cash prize given to a computer science major who has exhibited excellence in the area of computer science.

## OTHER IMPORTANT INFORMATION

See the Requirements section for the policies on double counting and D grades.

## PROFESSORS

Peter N. Belhumeur  
Steven M. Bellovin  
Luca Carloni  
Xi Chen  
Steven K. Feiner  
Luis Gravano  
Julia B. Hirschberg  
Gail E. Kaiser  
John R. Kender  
Tal Malkin  
Kathleen R. McKeown  
Vishal Misra  
Shree Kumar Nayar  
Jason Nieh  
Christos Papadimitriou  
Itzik Pe'er  
Toniann Pitassi  
Kenneth A. Ross  
Tim Roughgarden  
Daniel S. Rubenstein  
Henning G. Schulzrinne  
Rocco A. Servedio  
Simha Sethumadhavan  
Salvatore J. Stolfo  
Bjarne Stroustrup  
Vladimir Vapnik  
Jeannette Wing  
Junfeng Yang  
Mihalis Yannakakis  
Richard Zemei

## ASSOCIATE PROFESSORS

Alexandr Andoni  
Elias Bareinboim  
Augustin Chaintreau  
Stephen A. Edwards  
Roxana Geambasu

Daniel Hsu  
Suman Jana  
Martha Allen Kim  
Baishakhi Ray  
Carl Vondrick  
Eugene Wu  
Zhou Yu  
Changxi Zheng  
Xia Zhou

## ASSISTANT PROFESSORS

Josh Alman  
Lydia Chilton  
Ronghui Gu  
Kostis Kaffes  
David Knowles  
Brian Smith  
Henry Yuen

## SENIOR LECTURER IN DISCIPLINE

Paul Blaer  
Adam Cannon  
Jae Woo Lee

## LECTURER IN DISCIPLINE

Daniel Bauer  
Brian Borowski  
Tony Dear

## ASSOCIATED FACULTY JOINT

Andrew Blumberg  
Shih-Fu Chang  
Feniosky Peña-Mora  
Clifford Stein

## AFFILIATES

Shipra Agrawal  
Mohammed AlQuraishi  
Elham Azizi  
Paolo Blikstein  
Asaf Cidon  
Matei Ciocarlie  
Rachel Cummings  
Noemie Elhadad  
Javad Ghaderi  
Gamze Gursoy  
Xiaofan Jiang  
Ethan Katz-Bassett  
Hod Lipson  
Smaranda Muresan  
Liam Paninski  
Brian Plancher  
Mark Santolucito  
Lisa Soros  
Barbara Tversky

Venkat Venkatasubramanian  
Rebecca Wright  
Gil Zussman

## SENIOR RESEARCH SCIENTISTS

Gaston Ormazabal  
Moti Yung

## EMERITUS

Alfred V. Aho  
Peter K. Allen  
Edward G. Coffman Jr.  
Zvi Galil  
Jonathan L. Gross  
Steven M. Nowick  
Stephen H. Unger  
Henryk Wozniakowski  
Yechiam Yemini

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

The following requirements are new as of the academic year 2023-2024. Students who declared a CS major in the academic year 2022-2023 or earlier have the option to follow the old requirements. The old requirements are noted on the [Undergraduate Programs](https://www.cs.columbia.edu/education/undergraduate/) pages of the Computer Science Department website (<https://www.cs.columbia.edu/education/undergraduate/>).

Please note that the information on the department website is more up-to-date than the information in the archived Bulletins. Students with questions about which requirements to follow are advised to talk with ug-advising@cs.columbia.edu.

### Restrictions on overlapping courses

Students may receive credit for only one of the following two courses:

- [COMS W1004](#) Introduction to Computer Science and Programming in Java
- [COMS W1005](#) Introduction to Computer Science and Programming in MATLAB.

Students may receive credit for only one of the following three courses:

- [COMS W3134](#) Data Structures in Java
- [COMS W3136](#) ESSENTIAL DATA STRUCTURES

- [COMS W3137](#) HONORS DATA STRUCTURES # ALGOL

COMS W1005 and COMS W3136 cannot be counted towards the Computer Science major, minor, and concentration.

No more than 6 points of project/thesis courses (COMS W3902, W3998, W4901) can count toward the major. COMS W3999 Fieldwork cannot be used as a CS Elective.

No more than one course from each set below may be applied towards the computer science major:

- IEOR E3658, STAT UN1201, MATH UN2015
- MATH UN2015, MATH UN2010, APAM E3101, COMS W3251
- COMS W4771, COMS W4721

### Double Counting

Double-counting policies are to be construed within the larger double-counting policy of the student's home school. Double-counting policies are detailed on each School's Bulletin and/or Catalog.

The CS department allows the following courses in the CS Core and Mathematics requirement to be double-counted with another major, minor, or concentration. No other courses can be double-counted with another program.

- COMS W1004
- Any calculus courses (including Honors Math A and B)
- One Linear Algebra course
- One Probability/Statistics course

### Grading

A maximum of one course worth no more than 4 points passed with a grade of D may be counted toward the major or minor.

### Course Numbering Structure

The first digit indicates the level of the course, as follows:

0 Course that cannot be credited toward any degree

1 Undergraduate course

2 Undergraduate course, intermediate

3 Undergraduate course, advanced

4 Graduate course that is open to qualified undergraduates

6 Graduate course

8 Graduate course, advanced

9 Graduate research course or seminar

## Guidance for First-Year Students

### Pre-Introductory Courses

COMS W1004 is the first course in the Computer Science major curriculum, and it does not require any previous computing experience. Before taking COMS W1004, however, students have an option to start with one of the pre-introductory courses: ENGI E1006 or COMS W1002.

ENGI E1006 Introduction to Computing for Engineers and Applied Scientists is a general introduction to computing for STEM students. ENGI E1006 is in fact a required course for all engineering students. COMS W1002 Computing in Context is a course primarily intended for humanities majors, but it also serves as a pre-introductory course for CS majors.

ENGI E1006 and COMS W1002 do not count towards Computer Science major.

### Guidance for Transfer Students

Up to four transfer courses are accepted toward the major. Up to two transfer courses are accepted toward the minor or concentration. Calculus, linear algebra, and probability/statistics courses can be transferred in addition to the four/two-course limits.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in Computer Science

All majors should confer with their program adviser each term to plan their programs of study. Students considering a major in computer science are encouraged to talk to a program adviser during their first or second year. The Computer Science major is composed of four basic components: The Mathematics Requirement, the Computer Science Core, the Area Foundation Courses, and the Computer Science Electives.

### Mathematics Requirement (6-11 points)

**Calculus Requirement: Select one of the following courses:**

MATH UN1201	CALCULUS III
MATH UN1205	ACCELERATED MULTIVARIABLE CALC
APMA E2000	MULTV. CALC. FOR ENGI # APP SCI

Note that MATH UN1201 (Calculus III) requires Calculus I as a prerequisite but does NOT require Calculus II. MATH UN1205 and APMA E2000, however, require both Calculus I and Calculus II as prerequisites.

**Linear Algebra Requirement: Select one of the following courses:**

COMS W3251	COMPUTATIONAL LINEAR ALGEBRA (recommended)
MATH UN2010	LINEAR ALGEBRA
MATH UN2015	Linear Algebra and Probability
MATH UN2020	Honors Linear Algebra
APMA E2101	INTRO TO APPLIED MATHEMATICS
APMA E3101	APPLIED MATH I: LINEAR ALGEBRA

**Probability / Statistics Requirement: Select one of the following courses:**

MATH UN2015	Linear Algebra and Probability
IEOR E3658	PROBABILITY FOR ENGINEERS
STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS

NOTE: Math 2015 Linear Algebra and Probability may simultaneously satisfy both linear algebra and probability requirements without the need to take additional classes thus reducing the total number of points required.

### Pre-intro course (Optional, 3-4 points)

ENGI E1006	INTRO TO COMP FOR ENG/ APP SCI (recommended but not required)
or COMS W1002	COMPUTING IN CONTEXT

### Computer Science Core (20-21 points):

#### First Year

COMS W1004	Introduction to Computer Science and Programming in Java
or COMS W1007	

#### Sophomore Year

COMS W3134 or COMS W3137	Data Structures in Java HONORS DATA STRUCTURES # ALGOL
COMS W3157	ADVANCED PROGRAMMING
COMS W3203	DISCRETE MATHEMATICS

#### Junior and Senior Year

Complete the remaining required core courses:	
COMS W3261	COMPUTER SCIENCE THEORY
CSEE W3827	FUNDAMENTALS OF COMPUTER SYSTS

### Area Foundation Courses (9 to 12 points):

Select three from the following list:

COMS W4111	INTRODUCTION TO DATABASES
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COMS W4113	FUND-LARGE-SCALE DIST SYSTEMS
COMS W4115	PROGRAMMING LANG # TRANSLATORS
COMS W4118	OPERATING SYSTEMS I
COMS W4119	COMPUTER NETWORKS
COMS W4152	Engineering Software-as-a-Service
COMS W4156	ADVANCED SOFTWARE ENGINEERING
COMS W4160	COMPUTER GRAPHICS
COMS W4167	COMPUTER ANIMATION
COMS W4170	USER INTERFACE DESIGN
COMS W4181	SECURITY I
CSOR E4231	ANALYSIS OF ALGORITHMS I
COMS W4236	INTRO-COMPUTATIONAL COMPLEXITY
COMS W4701	ARTIFICIAL INTELLIGENCE
COMS W4705	NATURAL LANGUAGE PROCESSING
COMS W4731	Computer Vision I: First Principles
COMS W4733	COMPUTATIONAL ASPECTS OF ROBOTICS
CBMF W4761	COMPUTATIONAL GENOMICS
COMS W4771	MACHINE LEARNING
CSEE W4824	COMPUTER ARCHITECTURE
CSEE W4868	SYSTEM-ON-CHIP PLATFORMS

### Computer Science Electives (9 to 12 points)

Any three COMS courses or jointly offered computer science courses such as CSXX or XXCS course that are worth at least 3 points and are at the 3000 level or above. This includes 3000-level courses offered by Barnard CS.

### Restrictions

No more than 6 points of project/thesis courses (COMS W3902, W3998, W4901) can count toward the major. COMS W3999 Fieldwork cannot be used as a CS Elective.

No more than one course from each set below may be applied towards the computer science major:

- IEOR E3658, STAT UN1201, MATH UN2015
- MATH UN2015, MATH UN2010, APAM E3101, COMS W3251
- COMS W4771, COMS W4721

## Major in Computational Biology

For a description of the joint major in computer science—Biology, see the [Biological Sciences](#) section in this bulletin.

## Major in Computer Science - Mathematics

For a description of the joint major in computer science—mathematics, see the *Mathematics* section in this bulletin.

## Major in Information Science

The major in information science requires a minimum of 33 points, including a core requirement of five courses. Adjustments were made to the course lists below in March 2022.

The elective courses must be chosen with a faculty adviser to focus on the modeling and use of information within the context of a disciplinary theme. After discussing potential selections, students prepare a proposal of study that must be approved by the faculty adviser. In all cases, the six courses must be at the 3000 level or above, with at least three courses chosen from computer science. Following are some example programs. For more examples or templates for the program proposal, see a faculty adviser.

Note: In most cases, additional courses will be necessary as prerequisites in order to take some of the elective courses. This will depend on the student's proposed program of study.

COMS W1001	Introduction to Information Science
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or COMS W1002 Computing in Context
------------------------------------

COMS W1004	Introduction to Computer Science and Programming in Java
------------	--

COMS W3107	Clean Object-Oriented Design
------------	------------------------------

COMS W3134	Data Structures in Java
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STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS
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Following are some suggested programs of instruction:

### Information Science and Contemporary Society

Students may focus on how humans use technology and how technology has changed society.

The requirements include:

COMS W4111	INTRODUCTION TO DATABASES
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COMS W4170	USER INTERFACE DESIGN
------------	-----------------------

COMS W4701	ARTIFICIAL INTELLIGENCE
------------	-------------------------

COMS W3410	COMPUTERS AND SOCIETY
------------	-----------------------

SOCI UN3010	METHODS FOR SOCIAL RESEARCH
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SOCI UN3960	SEMINAR - PROBLEMS OF LAW # SOCIETY
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### Information Science and the Economy

Students may focus on understanding information modeling together with existing and emerging needs in economics and finance as well as algorithms and systems to address those needs.

The requirements include:

COMS W4111	INTRODUCTION TO DATABASES
COMS W4701	ARTIFICIAL INTELLIGENCE
COMS W4771	MACHINE LEARNING
ECON UN3412	INTRODUCTION TO ECONOMETRICS
ECON UN3025	FINANCIAL ECONOMICS
ECON UN3265	MONEY AND BANKING

### Information Science and Health Sciences

Students may focus on understanding information modeling together with existing and emerging needs in health sciences, as well as algorithms and systems to address those needs.

The requirements include:

COMS W4111	INTRODUCTION TO DATABASES
COMS W4170	USER INTERFACE DESIGN
COMS W4701	ARTIFICIAL INTELLIGENCE
BINF G4001	
BIOL W4037	Bioinformatics of Gene Expression
ECBM E3060/E4060	

## Major in Data Science

In response to the ever-growing importance of "big data" in scientific and policy endeavors, the last few years have seen explosive growth in theory, methods, and applications at the interface between computer science and statistics. The statistics and computer science departments have responded with a joint major that emphasizes the interface between the disciplines.

### Prerequisites (15 points)

MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II
MATH UN1201	CALCULUS III
MATH UN2010	LINEAR ALGEBRA
This introductory Statistics course:	
STAT UN1201	CALC-BASED INTRO TO STATISTICS

### Statistics (12 points)

STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS
STAT GU4241	STATISTICAL MACHINE LEARNING
or COMS W4771 Machine Learning	

### Computer Science (12 points)

Select one of the following courses:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB

### COMS W1007

ENGI E1006	INTRO TO COMP FOR ENG/ APP SCI
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Select one of the following courses:

COMS W3134	Data Structures in Java
COMS W3136	ESSENTIAL DATA STRUCTURES
COMS W3137	HONORS DATA STRUCTURES # ALGOL

Two required courses:

COMS W3203	DISCRETE MATHEMATICS
CSOR W4231	ANALYSIS OF ALGORITHMS I

### Electives (15 points)

Select two of the following courses:

STAT UN3106	APPLIED MACHINE LEARNING
STAT GU4206	STAT COMP # INTRO DATA SCIENCE
STAT GU4224	BAYESIAN STATISTICS
STAT GU4243	APPLIED DATA SCIENCE
STAT Q4242	Advanced Machine Learning

Select three of the following courses:

COMS W3261	COMPUTER SCIENCE THEORY
COMS W4111	INTRODUCTION TO DATABASES
COMS W4130	
COMS W4236	INTRO-COMPUTATIONAL COMPLEXITY
COMS W4252	INTRO-COMPUTATIONAL LEARN THRY

Any COMS W47xx course EXCEPT W4771

## Minor in Computer Science

Students who pass the Computer Science Advanced Placement Exam A with a 4 or 5 will receive 3 points and an exemption from COMS W1004.

The Computer Science Minor consists of 6 courses as follows:

1. COMS W1004: Intro to computer science and programming in Java (3) or COMS W1007: Honors intro to comp sci (3)
2. COMS W3134: Data structures in Java (3) or COMS W3137: Honors data structures and algorithms (4)
3. COMS W3203: Discrete mathematics (4)
4. One course of the following:

COMS W3157: Advanced programming (4)

COMS W3261: Comp science theory (3)

CSEE W3827: Fundamentals of computer systems (3)

5. Any 3000-level or 4000-level COMS/CSXX/XXCS course of at least 3 points

6. Any 3000-level or 4000-level COMS/CSXX/XXCS course of at least 3 points OR one linear algebra or probability/statistics course from the following: APMA E3101, APMA E2101, MATH UN2010, MATH UN2015, IEOR E3658, STAT UN1201, STAT GU4001 or STAT GU4203.

### Restrictions

No more than 6 points of project/thesis courses (COMS W3902, W3998, W4901) can count toward the major. COMS W3999 Fieldwork cannot be used as a CS Elective.

No more than one course from each set below may be applied towards the computer science major:

- IEOR E3658, STAT UN1201, MATH UN2015
- MATH UN2015, MATH UN2010, APMA E3101, COMS W3251
- COMS W4771, COMS W4721

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Computer Science

The concentration in computer science requires a minimum of 22-24 points, as follows:

COMS W1004 Introduction to Computer Science and Programming in Java

or COMS W1007

COMS W3134 Data Structures in Java  
or COMS W3137 HONORS DATA STRUCTURES # ALGOL

COMS W3157 ADVANCED PROGRAMMING

COMS W3203 DISCRETE MATHEMATICS

COMS W3261 COMPUTER SCIENCE THEORY

CSEE W3827 FUNDAMENTALS OF COMPUTER SYSTS (or any 3 point 4000-level computer science course)

Select one of the following courses:

COMS W3251 COMPUTATIONAL LINEAR ALGEBRA

MATH UN2010 LINEAR ALGEBRA

MATH UN2015 Linear Algebra and Probability

MATH V2020 Honors Linear Algebra

APMA E2101 INTRO TO APPLIED MATHEMATICS

APMA E3101 APPLIED MATH I: LINEAR ALGEBRA

IEOR E3658 PROBABILITY FOR ENGINEERS

STAT UN1201 CALC-BASED INTRO TO STATISTICS

STAT GU4001 INTRODUCTION TO PROBABILITY AND STATISTICS

## COMPUTER SCIENCE - MATHEMATICS

### THE DEPARTMENT OF MATHEMATICS

**Department website:** <http://www.math.columbia.edu>

#### Director of Undergraduate Studies

Julien Dubedat, 601 Mathematics; 212-854-8806; [jd2653@columbia.edu](mailto:jd2653@columbia.edu)

#### Undergraduate Academic Coordinator

TBD

## THE STUDY OF MATHEMATICS

The major in mathematics is an introduction to some of the highlights of the development of theoretical mathematics over the past four hundred years from a modern perspective. This study is also applied to many problems, both internal to mathematics and arising in other disciplines such as physics, cryptography, and finance.

Majors begin by taking either Honors mathematics or the calculus sequence. Students who do not take MATH UN1207 HONORS MATHEMATICS A and MATH UN1208 HONORS MATHEMATICS B normally take MATH UN2010 LINEAR ALGEBRA in the second year. Following this, majors begin to learn some aspects of the main branches of modern mathematics: algebra, analysis, and geometry; as well as some of their subdivisions and hybrids (e.g., number theory, differential geometry, and complex analysis). As the courses become more advanced, they also become more theoretical and proof-oriented and less computational.

Aside from the courses offered by the Mathematics Department, cognate courses in areas such as astronomy, chemistry, physics, probability, logic, economics, and computer science can be used toward the major. A cognate course must be a 2000-level (or higher) course and must be approved by the director of undergraduate studies. In general, a course not taught by the Mathematics Department is a cognate course for the mathematics major if either (a) it has at least two semesters of calculus as a stated prerequisite, or (b) the subject matter in the course is mathematics beyond an elementary level, such as PHIL UN3411 SYMBOLIC LOGIC, in the Philosophy Department, or COMS W3203 DISCRETE MATHEMATICS, in the Computer Science Department. A list of pre-approved cognate courses can be found under the [major requirements](#).

Another requirement for majors is participation in an undergraduate seminar, usually in the junior or senior year. Applied math majors must take the undergraduate applied math seminar sequence in both the junior and senior year. In these seminars, students gain experience in learning an advanced topic and lecturing on it. In order to be eligible for departmental honors, majors must write a senior thesis.

### Student Advising

#### **Director of Undergraduate Studies**

Prof. Julien Dubedat, 601 Mathematics; 212-854-8806; [jd2653@columbia.edu](mailto:jd2653@columbia.edu)

#### **Calculus Director**

Prof. George Dragomir, 525 Mathematics; 212-854-2849; [gd2572@columbia.edu](mailto:gd2572@columbia.edu)

#### **Computer Science-Mathematics Advisers**

*Computer Science:* Dr. Jae Woo Lee, 715 CEPSR; 212-939-7066; [jae@cs.columbia.edu](mailto:jae@cs.columbia.edu)

*Mathematics:* Prof. Chiu-Chu Melissa Liu, 623 Mathematics; 212-854-2499; [ccliu@math.columbia.edu](mailto:ccliu@math.columbia.edu)

#### **Economics-Mathematics Advisers**

*Economics:* Dr. Susan Elmes, 1006 International Affairs Building; 212-854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)

*Mathematics:* Prof. Francesco Lin, 613 Mathematics; 212-854-2192; [f\(jd2653@columbia.edu\)l2550@columbia.edu](mailto:f(jd2653@columbia.edu)l2550@columbia.edu)  
([fl2550@columbia.edu](mailto:fl2550@columbia.edu))

#### **Mathematics-Statistics Advisers**

*Mathematics:* Prof. Andrew Blumberg, 607 Mathematics; 212-851-9307; [a\(jd2653@columbia.edu\)b4808@columbia.edu](mailto:a(jd2653@columbia.edu)b4808@columbia.edu) ([ab4808@columbia.edu](mailto:ab4808@columbia.edu))

*Statistics:* Dr. Ronald Neath, 612 Watson; 212-853-1398; [rcn2112@columbia.edu](mailto:rcn2112@columbia.edu)

### Enrolling in Classes

Most undergraduate level courses in Mathematics can be taken once the prerequisite courses have been completed. Any exceptions to waive a prerequisite requirement must be obtained by writing to the Director of Undergraduate Studies.

Students who wish to register for a section of either Supervised Readings and/or Senior Thesis must first identify a faculty sponsor, determine a suitable topic, and obtain written permission from the Director of Undergraduate Studies. Refer to the Undergraduate Research and Senior Thesis section, below.

### Preparing for Graduate Study

Departmental advisors can offer advice about and help with graduate school applications. The Mathematics department also runs a [Master's degree program in mathematical finance](#) and a [Ph.D. program in mathematics](#).

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Comprehensive information on college level coursework taken outside Columbia University are described on the College's [Academic Regulation website](#) or the General Studies [Transfer Credit website](#).

### Advanced Placement

AP or IB calculus may count towards degree requirements, subject to completion of a higher level course:

- The department grants 3 credits for a score of 4 or 5 on the AP Calculus AB exam provided students complete MATH UN1102 CALCULUS II or MATH UN1201 CALCULUS III with a grade of C or better.
- The department grants 3 credits for a score of 4 on the AP Calculus BC exam provided students complete MATH UN1102 CALCULUS II or MATH UN1201 CALCULUS III with a grade of C or better.
- The department grants 6 credits for a score of 5 on the AP Calculus BC exam provided students complete MATH UN1201 CALCULUS III or MATH UN1205 ACCELERATED MULTIVARIABLE CALC or MATH UN1207 HONORS MATHEMATICS A with a grade of C or better.

Students can receive credit for only one calculus sequence. Other college level courses taken during high school may substitute for course prerequisites pending the approval of the Director of Undergraduate Studies, but will not confer credits.

### Barnard College Courses

Any course offered by the Mathematics@Barnard department will count towards degree requirements.

### Transfer Courses

Courses taken at other colleges or universities may be evaluated for transfer credit. A maximum of 16 transfer credits may be granted. A maximum of 6 transfer credits may be counted towards minor requirements.

- Course equivalency requests for any Calculus level course, Linear Algebra, or Ordinary Differential Equations must be submitted to the Calculus Director for evaluation.
- Course equivalency requests for any other mathematics course must be submitted to the Director of Undergraduate Studies for evaluation.

### Study Abroad Courses

Although study abroad is not an integral part of your studies in mathematics, it can provide you with exposure to a different culture and a different educational system, and, as such, can be very fulfilling. You may also want to participate in the Budapest Mathematical Seminar or similar programs in your junior year. Keep in mind, however, that study abroad requires careful planning. If you are seriously considering studying abroad, you should consult with the Director of Undergraduate Studies as early in your program as possible in order to plan your major accordingly and to incorporate study abroad courses that are compatible with your major in mathematics.

### Summer Courses

Any mathematics or approved cognate course offered during the summer session will count towards the degree, with the exception of online only courses, which *do not* count towards degree requirements.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

*MATH UN3901 Supervised Readings I* (fall term only)

*MATH UN3902 Supervised Readings II* (spring term only)

**Prerequisites:** The written permission of the faculty member who agrees to act as sponsor (sponsorship limited to full-time instructors on the staff list), as well as the permission of the Director of Undergraduate Studies. The written permission must be deposited with the Director of Undergraduate Studies before registration is completed.

Guided reading and study in mathematics. A student who wishes to undertake individual study under this program must present a specific project to a member of the staff and secure his or her willingness to act as sponsor. Written reports



and periodic conferences with the instructor. Supervising Readings do NOT count towards major requirements, with the exception of an advanced written approval by the Director of Undergraduate Studies.

## Senior Thesis Coursework and Requirements

A Senior Thesis in Mathematics is an original presentation of a subject in pure or applied mathematics from sources in the published literature. The thesis must demonstrate significant independent work of the author. A thesis is expected to be between 20 and 50 pages with complete references and must have a substantial expository component to be well received.

A student who is interested in writing a senior thesis needs to identify a faculty member in the Department of Mathematics as an advisor, determine an appropriate topic, and receive the written approval from the faculty advisor and the Director of Undergraduate Studies. The research of the thesis is conducted primarily during the fall term and the final paper is submitted to the Director of Undergraduate Studies by the end of March.

Students must register for *MATH UN3994 SENIOR THESIS IN MATHEMATICS I* (4 credits) in the fall semester of their senior year. An optional continuation course *MATH UN3995 SENIOR THESIS IN MATHEMATICS II* (2 credits) is available during the spring. The second term of this sequence may not be taken without the first. Registration for the spring continuation course has no impact on the timeline or outcome of the final paper. Sections of Senior Thesis in Mathematics I and II do NOT count towards the major requirements, unless prior written approval is obtained from the Director of Undergraduate Studies.

## Undergraduate Research Outside of Courses

The department runs several undergraduate research programs aimed at math majors. Opportunities are available during the academic year and summer terms.

The Undergraduate Mathematics Society is the department's undergraduate club. Detailed information on membership, Society-sponsored seminars and activities, and archival resources are available on the Society's Web site. The department also sponsors workshops and weekly seminars in mathematics, and posts information about special lectures, conferences, and seminars at nearby schools.

In addition, the Association for Women in Mathematics Columbia Chapter connects students and professors interested in mathematics at Columbia University and Barnard College as part of a broader effort to encourage women and girls to study and to have active careers in the mathematical sciences, and to promote equal opportunity for and the equal treatment of women and girls in the STEM fields.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

To be recommended to the College Committee on Honors, Awards, and Prizes, which makes the final decisions on all honors' recipients, you must have a GPA of 3.63 in the major and have completed a senior thesis of merit. For more information on researching and writing the senior thesis and on departmental honors, you should consult with the Director of Undergraduate Studies. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

### Academic Prizes

#### Putnam Exam

The Putnam exam is a nationwide competitive exam administered each year on the first Saturday in December. A faculty member conducts coaching sessions for students who are interested in competing.

#### Columbia Prizes

Several prizes for excellence in mathematics are awarded each year to undergraduates, based on performance on a prize exam scheduled each spring. These include:

- Professor Van Amringe Mathematical Prize
  - This prize, established in 1910 by George G. Dewitt, Class of 1867, may be awarded to a first year, a sophomore, and a junior student in the College who are deemed most proficient in the mathematical subjects designated during the year of the award.
- John Dash Van Buren Jr. Prize in Mathematics

- Established in 1906 by Mrs. Louis T. Hoyt in memory of her nephew, John Dash Van Buren, Jr., Class of 1905, this prize may be awarded to a Columbia College senior degree candidate who writes the best examination in subjects prescribed by the Mathematics Department.

## OTHER IMPORTANT INFORMATION

Other helpful information may be found on the [Department of Mathematics website](#).

## PROFESSORS

- David A. Bayer (Barnard)
- Andrew Blumberg
- Simon Brendle
- Ivan Corwin
- Panagiota Daskalopoulos
- Aise Johan de Jong (Department Chair)
- Daniela De Silva (Barnard Chair)
- Julien Dubedat
- Robert Friedman
- Dorian Goldfeld
- Brian Greene
- Richard Hamilton
- Michael Harris
- Ioannis Karatzas
- Alisa Knizel (Barnard)
- Chiu-Chu Liu
- Dusa McDuff (Barnard)
- Andrei Okounkov
- D. H. Phong
- Ovidiu Savin
- Michael Thaddeus
- Eric Urban
- Mu-Tao Wang

## ASSOCIATE PROFESSORS

- Amol Aggarwal
- Chao Li
- Francesco Lin
- Lindsay Piechnik (Barnard)

## ASSISTANT PROFESSORS

- Elena Giorgi
- Giulia Sacca
- Mehtaab Sawhney

## J.F. RITT ASSISTANT PROFESSORS

- Rostislav Akhmechet
- Amadou Bah
- Deeparaj Bhat
- Jeanne Boursier
- Marco Castronovo
- Brian Harvie

- Qiao He
- Sven Hirsch
- Andres Ibanez Nunez
- Yoonjoo Kim
- Siddhi Krishna
- Gyujin Oh
- Marco Sangiovanni Vincentelli
- Dawei Shen
- Xi Sisi Shen
- Evan Sorensen
- Roger Van Peski
- Lucy Yang

## SENIOR LECTURERS IN DISCIPLINE

- Mikhail Smirnov
- Peter Woit

## LECTURERS IN DISCIPLINE

- George Dragomir

## ON LEAVE

- Fall 2024: Profs. Aggarwal, Bayer, Giorgi, Li, Sawhney, Shen, Wang
- Spring 2025: Profs. Aggarwal, Bayer, Li, Liu, Sawhney, Urban, Wang

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN MATHEMATICS PROGRAM PLANNING FOR ALL STUDENTS

### Placement in the Calculus Sequences

#### Calculus I

Students who have essentially mastered a precalculus course and those who have a score of 3 or less on an Advanced Placement (AP) exam (either AB or BC) should begin their study of calculus with MATH UN1101 CALCULUS I.

#### Calculus II and III

Students with a score of 4 or 5 on the AB exam, 4 on the BC exam, or those with no AP score but with a grade of A in a full year of high school calculus may begin with either MATH UN1102 CALCULUS II or MATH UN1201 CALCULUS III.

Note that such students who decide to start with Calculus III may still need to take Calculus II since it is a requirement or prerequisite for other courses. In particular, they **MUST** take Calculus II before going on to MATH UN1202 CALCULUS IV. Students with a score of 5 on the BC exam may begin with Calculus III and do not need to take Calculus II.

Those with a score of 4 or 5 on the AB exam or 4 on the BC exam may receive 3 points of AP credit upon completion of Calculus II with a grade of C or higher. Those students with a score of 5 on the BC exam may receive 6 points of AP credit upon completion of Calculus III with a grade of C or higher.

#### Accelerated Multivariable Calculus

Students with a score of 5 on the AP BC exam or 7 on the IB HL exam may begin with MATH UN1205 ACCELERATED MULTIVARIABLE CALC. Upon completion of this course with a grade of C or higher, they may receive 6 points of AP credit.

#### Honors Mathematics A

Students who want a proof-oriented theoretical sequence and have a score of 5 on the BC exam may begin with MATH UN1207 HONORS MATHEMATICS A, which is especially designed for mathematics majors. Upon completion of this course with a grade of C or higher, they may receive 6 points of AP credit.

## Transfer Inside the Calculus Sequences

Students who wish to transfer from one calculus course to another are allowed to do so beyond the date specified on the Academic Calendar. They are considered to be adjusting their level, not changing their program. However, students must obtain the approval of the new instructor and their advising dean prior to reporting to the Office of the Registrar.

## Grading

No course with a grade of D or lower can count toward the major, interdepartmental major, minor, or concentration.

## Double Counting

Students who are doing a double major should review the College Bulletin's policy on [Double Counting Courses towards Requirements](#). In general, courses in the Calculus sequence may be counted towards both majors, with up to two additional MATH UN2xxx or higher level courses at the discretion of all approving departments. Students pursuing a minor may double count at most one additional MATH UN2xxx or higher level course.

## Planning Forms

[Planning forms](#) for all programs are available on our website. These forms should be completed and approved by a department adviser early in the semester of the expected graduation date.

## COURSE NUMBERING STRUCTURE

- 1000-2000 Level courses are intended to be introductory courses (such as the Calculus sequence and Linear Algebra).
- 3000-4000 Level courses cover more advanced mathematics, as well as supervised readings, undergraduate seminars, and senior theses.
- 5000 Level courses are Master's level courses.
- 6000 Level and above are PhD level courses.

## GUIDANCE FOR FIRST-YEAR STUDENTS

The systematic study of mathematics begins with one of the following three alternative calculus and linear algebra sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA
OR	
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
OR	
MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B

Credit is allowed for only one calculus and linear algebra sequence.

*Calculus I, II* is a standard course in single-variable differential and integral calculus; *Calculus III, IV* is a standard course in multivariable differential and integral calculus; *Accelerated Multivariable Calculus* is an accelerated course in multivariable differential and integral calculus.

While *Calculus II* is no longer a prerequisite for *Calculus III*, students are strongly urged to take it before taking *Calculus III*. In particular, students thinking of majoring or concentrating in mathematics or one of the joint majors involving mathematics should take *Calculus II* before taking *Calculus III*. Note that *Calculus II* is a prerequisite for *Accelerated Multivariable Calculus*, and both *Calculus II* and *Calculus III* are prerequisites for *Calculus IV*.

The third sequence, *Honors Mathematics A/B*, is for exceptionally well-qualified students who have strong Advanced Placement scores. It covers multivariable calculus (MATH UN1201 CALCULUS III - MATH UN1202 CALCULUS IV) and linear algebra (MATH UN2010 LINEAR ALGEBRA), with an emphasis on theory.

## GUIDANCE FOR TRANSFER STUDENTS

Consideration for AP, IB and transfer credit is as follows:

Equivalent to *MATH UN1101 Calculus I*:

- A score of 4 on the Calculus BC Advanced Placement exam.
- A score of 4 or 5 on the Calculus AB Advanced Placement exam.
- A score of 6 on the IB Mathematics: analysis and approaches HL exam (2021 or later) or a score of 6 on the IB HL Mathematics or Further Mathematics exams (2020 or earlier).
- A score of 6 or 7 on the IB Mathematics: applications and interpretation HL exam (2021 or later) or a score of 6 or 7 on the IB SL Mathematics exam (2020 or earlier). This does not include the IB “Mathematical Studies SL” exam.
- An A on the A-Level Mathematics exam or a B in A-Level Further Mathematics exam in the U.K.
- A grade of A in a full year of high school calculus.

Equivalent to *MATH 1101 Calculus I* and *MATH 1102 Calculus II*:

- A score of 5 on the Calculus BC Advanced Placement.
- A score of 7 on the IB Mathematics: analysis and approaches HL exam (2021 or later) or a score of 7 on the IB HL Mathematics or Further Mathematics exams (2020 or earlier).
- An A on the A-Level Further Mathematics exam in the U.K.

## UNDERGRADUATE PROGRAMS OF STUDY

### MAJOR IN MATHEMATICS

The major requires 40-42 points as follows:

Select one of the following three calculus and linear algebra sequences (13-15 points including Advanced Placement Credit):

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B
12 points in the following courses:	
MATH GU4041	INTRO MODERN ALGEBRA I
MATH GU4042	INTRO MODERN ALGEBRA II
MATH GU4061	INTRO MODERN ANALYSIS I <sup>2</sup>
MATH GU4062	INTRO MODERN ANALYSIS II <sup>2</sup>
3 points in the following:	
MATH UN3951 or MATH UN3952	UNDERGRADUATE SEMINARS I <sup>3</sup> UNDERGRADUATE SEMINARS II
12 points from the following:	



1) Courses offered by the department numbered 2000 or higher <sup>3</sup>

2) Courses from the list of approved cognate courses below. A maximum of 6 credits may be taken from courses outside the department. <sup>4</sup>

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.
- <sup>2</sup> Students who are not contemplating graduate study in mathematics may replace one or both of the two terms of MATH GU4061- MATH GU4062 by one or two of the following courses: MATH UN2500 ANALYSIS AND OPTIMIZATION, MATH UN3007 COMPLEX VARIABLES, MATH UN3028 PARTIAL DIFFERENTIAL EQUATIONS, or MATH GU4032 FOURIER ANALYSIS.
- <sup>3</sup> Only one Undergraduate Seminar may count towards the major requirements.
- <sup>4</sup> Additional courses may be selected only with prior written approval from the Director of Undergraduate Studies.

The program of study should be planned with a departmental adviser before the end of the sophomore year. Majors who are planning on graduate studies in mathematics are urged to obtain a reading knowledge of one of the following languages: French, German, or Russian.

Majors are offered the opportunity to write an honors senior thesis under the guidance of a faculty member. Interested students should refer to the "Undergraduate Research and Senior Thesis" section on the Overview tab for additional information.

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**Approved Cognate Courses 1**

APMA E2101 INTRO TO APPLIED MATHEMATICS  
 APMA E3102 APPLIED MATHEMATICS II: PDE'S  
 APMA E4300 COMPUT MATH:INTRO-NUMERCL METH  
 APMA E4302 METHODS IN COMPUTATIONAL SCI  
 APPH E6102 PLASMA PHYSICS II  
 CBMF W4761 COMPUTATIONAL GENOMICS  
 CHEM UN3079 PHYSICAL CHEMISTRY I-LECTURES  
 CHEM UN3080 PHYSICAL CHEMISTRY II-LECTURES  
 COMS W3134 Data Structures in Java  
 COMS W3157 ADVANCED PROGRAMMING  
 COMS W3203 DISCRETE MATHEMATICS  
 COMS W3261 COMPUTER SCIENCE THEORY  
 COMS W4111 INTRODUCTION TO DATABASES  
 COMS W4160 COMPUTER GRAPHICS  
 COMS W4162 Advanced Computer Graphics  
 COMS W4203 Graph Theory  
 COMS W4261 INTRO TO CRYPTOGRAPHY  
 COMS W4460 PRIN-INNOVATN/ ENTREPRENEURSHIP  
 COMS W4701 ARTIFICIAL INTELLIGENCE  
 COMS W4705 NATURAL LANGUAGE PROCESSING  
 COMS W4762 Machine Learning for Functional Genomics  
 COMS W4771 MACHINE LEARNING  
  
 COMS W4773 Machine Learning Theory  
 CSEE W3827 FUNDAMENTALS OF COMPUTER SYSTS  
 CSOR W4231 ANALYSIS OF ALGORITHMS I  
 CSOR W4246 ALGORITHMS FOR DATA SCIENCE  
 CSPH G4801  
 CSPH G4802 Math Logic II: Incompleteness

**Approved Cognate Courses 2**

ECON UN3025 FINANCIAL ECONOMICS  
 ECON BC3035 INTERMEDIATE MICROECONOMICS  
 ECON BC3038 INTERNATIONAL MONEY # FINANCE  
 ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3265 MONEY AND BANKING  
 ECON UN3412 INTRODUCTION TO ECONOMETRICS  
 ECON GU4020 ECON OF UNCERTAINTY # INFORMTN  
 ECON GU4230 ECONOMICS OF NEW YORK CITY  
 ECON GU4280 CORPORATE FINANCE  
 ECON GU4415 GAME THEORY  
 ECON GU4710 FINANCE AND THE REAL ECONOMY  
 EEOR E6616 CONVEX OPTIMIZATION  
 EESC UN3400 COMPUTATIONAL EARTH SCIENCE  
 EESC GU4008 Introduction to Atmospheric Science  
 EESC GU4090 INTRO TO GEOCHRONOLGY  
 EESC GU4924 INTRO TO ATMOSPHERIC CHEMISTRY  
 IEOR E3106 STOCHASTIC SYSTEMS AND APPLICATIONS  
 IEOR E3658 PROBABILITY FOR ENGINEERS  
 IEOR E4700 INTRO TO FINANCIAL ENGINEERING  
 IEOR E6613 Optimization, I  
 MSAE E3010 FOUNDATIONS OF MATERIALS SCIENCE  
 MSAE E3111 THERMO/KINETIC THRY/STAT MECH  
 PHIL UN3411 SYMBOLIC LOGIC  
 PHIL GU4424 MODAL LOGIC  
 PHIL GU4431 INTRODUCTION TO SET THEORY  
 PHIL GU4561 PROBABILITY # DECISION THEORY  
 PHIL GU4810 LATTICES AND BOOLEAN ALGEBRA

**Approved Cognate Courses 3**

PHYS UN2601 PHYSICS III:CLASS/ QUANTUM WAVE  
 PHYS UN2801 ACCELERATED PHYSICS I  
 PHYS UN2802 ACCELERATED PHYSICS II  
 PHYS UN3003 MECHANICS  
 PHYS UN3007 ELECTRICITY-MAGNETISM  
 PHYS UN3008 ELECTROMAGNETIC WAVES # OPTICS  
 PHYS GU4011 PARTICLE ASTROPHYS # COSMOLOGY  
 PHYS GU4018 SOLID STATE PHYSICS  
 PHYS GU4019 MATHEMATICAL METHODS OF PHYSICS  
 PHYS GU4021 QUANTUM MECHANICS I  
 PHYS GU4022 QUANTUM MECHANICS II  
 PHYS GU4023 THERMAL # STATISTICAL PHYSICS  
 PHYS GU4040 INTRO TO GENERAL RELATIVITY  
 PHYS GR6047 QUANTUM FIELD THEORY I  
 PHYS GR6080 SCIENTIFIC COMPUTING  
 POLS GU4700 MATH # STATS FOR POLI SCI  
 STAT UN3106 APPLIED MACHINE LEARNING  
 STAT GU4001 INTRODUCTION TO PROBABILITY AND STATISTICS  
 STAT GU4203 PROBABILITY THEORY  
 STAT GU4204 STATISTICAL INFERENCE  
 STAT GU4205 LINEAR REGRESSION MODELS  
 STAT GU4206 STAT COMP # INTRO DATA SCIENCE  
 STAT GU4207 ELEMENTARY STOCHASTIC PROCESS

## MAJOR IN APPLIED MATHEMATICS

The major requires 37-41 points as follows:

Select one of the following three calculus and linear algebra sequences (13-15 points including Advanced Placement Credit):

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B
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Select one of the following three courses. The selected course may not count as an elective.

MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH GU4032	FOURIER ANALYSIS
MATH GU4061	INTRO MODERN ANALYSIS I

Take each of the following two required courses:

APMA E4901	SEM-PROBLEMS IN APPLIED MATH (junior year)
APMA E4903	SEM-PROBLEMS IN APPLIED MATH (senior year)

18 points in electives, with at least 9 points in Track A electives, or at least 9 points in Track B electives. A maximum of 9 points may be selected from courses outside these tracks, with prior written approval from the Director of Undergraduate Studies.

### TRACK A

MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
MATH UN3007 or MATH GU4065 or APMA E4204	COMPLEX VARIABLES HONORS COMPLEX VARIABLES FUNCTNS OF A COMPLEX VARIABLE
MATH UN3028 or APMA E3102 or APMA E4200	PARTIAL DIFFERENTIAL EQUATIONS APPLIED MATHEMATICS II: PDE'S PARTIAL DIFFERENTIAL EQUATIONS
MATH GU4032	FOURIER ANALYSIS
MATH GU4061	INTRO MODERN ANALYSIS I
MATH GU4062	INTRO MODERN ANALYSIS II
APMA E4100	Applied Analysis
APMA E4101	APPL MATH III:DYNAMICAL SYSTMS
APMA E4150	APPLIED FUNCTIONAL ANALYSIS
APMA E4300	COMPUT MATH:INTRO-NUMERCL METH
APMA E4301	NUMERICAL METHODS/PDE'S
APMA E6301	ANALYTIC METHODS FOR PDE'S
APMA E6302	NUMERICAL ANALYSIS OF PDE'S

### TRACK B

COMS W3203	DISCRETE MATHEMATICS
COMS W3261	COMPUTER SCIENCE THEORY
COMS W4231	ANALYSIS OF ALGORITHMS I
COMS W4261	INTRO TO CRYPTOGRAPHY

MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GU4155 or IEOR E3658 or STAT GU4203	PROBABILITY THEORY PROBABILITY FOR ENGINEERS PROBABILITY THEORY
MATH GU4156	ADVANCED PROBABILITY THEORY
IEOR E3106 or STAT GU4207	STOCHASTIC SYSTEMS AND APPLICATIONS ELEMENTARY STOCHASTIC PROCESS
APMA E4008	Advanced and Applied Linear Algebra
APMA E4306	Applied Stochastic Analysis
ECON GU4415	GAME THEORY

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

## MAJOR IN COMPUTER SCIENCE–MATHEMATICS

The goal of this interdepartmental major is to provide substantial background in each of these two disciplines, focusing on some of the parts of each which are closest to the other. Students intending to pursue a Ph.D. program in either discipline are urged to take additional courses, in consultation with their advisers.

The major requires 20 points in computer science, 19-21 points in mathematics, and two 3-point electives in either computer science or mathematics.

### Computer Science

COMS W1004 or COMS W1007	Introduction to Computer Science and Programming in Java
COMS W3134 or COMS W3137	Data Structures in Java HONORS DATA STRUCTURES # ALGOL
COMS W3157	ADVANCED PROGRAMMING
COMS W3203	DISCRETE MATHEMATICS
COMS W3261	COMPUTER SCIENCE THEORY
CSEE W3827	FUNDAMENTALS OF COMPUTER SYSTS

### Mathematics

Select one of the following three calculus and linear algebra sequences (13-15 points including Advanced Placement Credit):

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B
MATH UN3951 or MATH UN3952	UNDERGRADUATE SEMINARS I UNDERGRADUATE SEMINARS II

MATH GU4041	INTRO MODERN ALGEBRA I
<b>Electives</b>	
Select two of the following courses:	
MATH BC2006	COMBINATORICS
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH UN3007	COMPLEX VARIABLES
MATH UN3020	NUMBER THEORY AND CRYPTOGRAPHY
MATH UN3025	MAKING, BREAKING CODES
MATH UN3028	PARTIAL DIFFERENTIAL EQUATIONS
MATH UN3386	DIFFERENTIAL GEOMETRY
MATH GU4032	FOURIER ANALYSIS
MATH GU4042	INTRO MODERN ALGEBRA II
MATH GU4051	TOPOLOGY
MATH GU4053	INTRO TO ALGEBRAIC TOPOLOGY
MATH GU4061	INTRO MODERN ANALYSIS I
MATH GU4062	INTRO MODERN ANALYSIS II
COMS W4111	INTRODUCTION TO DATABASES
COMS W4113	FUND-LARGE-SCALE DIST SYSTEMS
COMS W4115	PROGRAMMING LANG # TRANSLATORS
COMS W4118	OPERATING SYSTEMS I
COMS W4119	COMPUTER NETWORKS
COMS W4152	Engineering Software-as-a-Service
COMS W4156	ADVANCED SOFTWARE ENGINEERING
COMS W4160	COMPUTER GRAPHICS
COMS W4167	COMPUTER ANIMATION
COMS W4170	USER INTERFACE DESIGN
COMS W4181	SECURITY I
CSOR E4231	ANALYSIS OF ALGORITHMS I
COMS W4236	INTRO-COMPUTATIONAL COMPLEXITY
COMS W4701	ARTIFICIAL INTELLIGENCE
COMS W4705	NATURAL LANGUAGE PROCESSING
COMS W4731	Computer Vision I: First Principles
COMS W4733	COMPUTATIONAL ASPECTS OF ROBOTICS
CBMF W4761	COMPUTATIONAL GENOMICS
COMS W4771	MACHINE LEARNING
CSEE W4824	COMPUTER ARCHITECTURE
CSEE W4868	SYSTEM-ON-CHIP PLATFORMS

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

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## MAJOR IN ECONOMICS-MATHEMATICS

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## MAJOR IN MATHEMATICS-STATISTICS

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The program is designed to prepare the student for: (1) a career in industries such as finance and insurance that require a high level of mathematical sophistication and a substantial knowledge of probability and statistics, and (2) graduate study



in quantitative disciplines. Students choose electives in finance, actuarial science, operations research, or other quantitative fields to complement requirements in mathematics, statistics, and computer science.

The major requires 38-43 points as follows:

### Mathematics

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010 & MATH UN2500	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA and ANALYSIS AND OPTIMIZATION <sup>1</sup>
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OR

MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010 & MATH UN2500	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA and ANALYSIS AND OPTIMIZATION <sup>1</sup>
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OR

MATH UN1207 & MATH UN1208 & MATH UN2500	HONORS MATHEMATICS A and HONORS MATHEMATICS B and ANALYSIS AND OPTIMIZATION (with approval from the adviser)
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### Statistics

#### Introductory Course

STAT UN1201	CALC-BASED INTRO TO STATISTICS
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#### Required Courses

STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS

Select one of the following courses:

STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance
STAT GU4264	STOCHASTIC PROCESSES-APPLIED I
STAT GU4265	STOCHASTIC METHODS IN FINANCE

### Computer Science

Select one of the following courses:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
COMS W1007	

or an advanced computer science offering in programming

### Electives

An approved selection of three advanced courses in mathematics, statistics, applied mathematics, industrial engineering and operations research, computer science, or approved mathematical methods courses in a quantitative discipline. At least one elective must be a Mathematics Department course numbered 3000 or above.

<sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

Students interested in modeling applications are recommended to take MATH UN2030 ORDINARY DIFFERENTIAL EQUATIONS and MATH UN3028 PARTIAL DIFFERENTIAL EQUATIONS.

Students interested in finance are recommended to take MATH GR5010 INTRO TO THE MATH OF FINANCE, STAT GU4261 STATISTICAL METHODS IN FINANCE, and STAT GU4221 TIME SERIES ANALYSIS.

Students interested in graduate study in mathematics or in statistics are recommended to take MATH GU4061 INTRO MODERN ANALYSIS I and MATH GU4062 INTRO MODERN ANALYSIS II.

Students preparing for a career in actuarial science are encouraged to replace STAT GU4205 LINEAR REGRESSION MODELS with STAT GU4282 Linear Regression and Time Series Methods , and to take among their electives STAT GU4281 Theory of Interest .

## MINOR IN MATHEMATICS

The Minor in Mathematics aims to provide students with a solid foundation of mathematical concepts. The program focuses on essential coursework, including multivariable calculus and linear algebra.

The minor functions as a complement to a number of closely related majors, including physics, economics, and computer science. Designed for accessibility, the minor emphasizes foundational understanding rather than proof-based courses, distinguishing it from the comprehensive Mathematics major.

Students in economics, computer science, statistics, physics, and similar natural science programs such as biology and climate science may be particularly interested in the minor. However, its versatile skillset extends beyond these disciplines. Students in language programs, art, and other humanities can also benefit from the minor's quantitative proficiency, enhancing their studies and future career prospects.

Students start with the minor requirements, e.g. with advanced placement sufficient to start the Multivariable Calculus/ Linear Algebra component. Upon completion of the minor, students will have acquired the skills and knowledge to carry out basic and advanced computations, formulate and solve problems, both internal to mathematics and arising from real world applications.

The minor consists of 15-17 points, as follows:

1. Multivariable calculus
2. Linear Algebra
3. Three approved elective courses (at least 9 points), two of which must be 2000+ level courses offered by the Mathematics department. The third course may either be an additional course in Math, or selected from a list of approved cognate courses<sup>1</sup>. Only one Undergraduate Seminar in Mathematics (MATH UN3951 UNDERGRADUATE SEMINARS I or MATH UN3952 UNDERGRADUATE SEMINARS II) may count towards the minor requirements.

### Multivariable Calculus & Linear Algebra

Select one of the following five multivariable and linear algebra sequences:

MATH UN1202 & MATH UN2010	CALCULUS IV and LINEAR ALGEBRA
OR	
MATH UN1202 & MATH UN2015	CALCULUS IV and Linear Algebra and Probability
OR	
MATH UN1205 & MATH UN2010	ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
OR	
MATH UN1205 & MATH UN2015	ACCELERATED MULTIVARIABLE CALC and Linear Algebra and Probability
OR	
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

### Electives

Select three elective courses (at least 9 points), two of which must be 2000+ level courses offered by the Mathematics department. The third course may either be an additional course in Math, or selected from a list of approved cognate courses.<sup>1</sup>

Only one Undergraduate Seminar in Mathematics (MATH UN3951 UNDERGRADUATE SEMINARS I or MATH UN3952 UNDERGRADUATE SEMINARS II) may count towards the minor requirements.

<sup>1</sup> See the list of approved cognate courses under the Major in Mathematics

## Prerequisites

Prerequisites for the courses in (1) Multivariable calculus and (2) Linear Algebra are as follows:

- MATH UN1202 CALCULUS IV: requires MATH UN1102 CALCULUS II and MATH UN1201 CALCULUS III
- MATH UN1205 ACCELERATED MULTIVARIABLE CALC: requires MATH UN1101 CALCULUS I and MATH UN1102 CALCULUS II
- MATH UN2010 LINEAR ALGEBRA: MATH UN1201 CALCULUS III (strongly recommended)
- MATH UN2015 Linear Algebra and Probability: MATH UN1101 CALCULUS I (strongly recommended)

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## MINOR IN MATHEMATICAL PROBABILITY

Probability Theory is a core mathematical subject with deep connections to a wide variety of disciplines. Many fundamental probabilistic concepts and problems stem from such fruitful interactions, from material sciences (e.g. percolation) to social sciences and computer science (e.g. random networks). The Minor in Mathematical Probability is a focused minor aiming at providing students majoring in these disciplines with a solid mathematical foundation organized around the probabilistic concepts pertinent to their main program of study. The transversal nature of probability both in science at large, and in terms of university structure, is underlined by the option of satisfying some core and elective requirements in other departments, such as Statistics and Industrial Engineering and Operation Research.

The minor naturally complements programs of study in natural and social sciences. As a focused minor, it also provides students with precise guidance on choices of coursework with direct relevance to and synergy with their major.

Students start with the minor requirements, e.g. with advanced placement sufficient to start the Multivariable Calculus/ Linear Algebra component. Upon completion of the minor, students will have acquired core mathematical skillsets motivated and illustrated by interactions with other disciplines, organized around theoretical and applied probability. The specialized structure and designation of the minor may also benefit career and professional development.

The minor consists of 15-17 points, as follows:

1. Multivariable calculus
2. Linear Algebra
3. Probability Theory
4. Two approved elective courses (at least 6 points), at least one of which is an approved course offered by the Mathematics Department. The second course may either be an additional course in Math, or selected from the list of approved cognate courses.

### Multivariable Calculus & Linear Algebra

MATH UN1201 & MATH UN2010	CALCULUS III and LINEAR ALGEBRA
OR	

MATH UN1201 & MATH UN2015	CALCULUS III and Linear Algebra and Probability
OR	

MATH UN1205 & MATH UN2010	ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
OR	

MATH UN1205 & MATH UN2015	ACCELERATED MULTIVARIABLE CALC and Linear Algebra and Probability
OR	
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B
<b>Probability Theory</b>	
MATH GU4155 or STAT GU4203 or IEOR E3658	PROBABILITY THEORY PROBABILITY THEORY PROBABILITY FOR ENGINEERS
<b>Electives</b>	
Select two elective courses (at least 6 points), at least one of which is an approved course offered by the Mathematics Department. The second course may either be an additional course in Math, or selected from the list of approved cognate courses below.	
<b>Approved Mathematics Electives</b>	
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH UN3028	PARTIAL DIFFERENTIAL EQUATIONS
MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GU4061	INTRO MODERN ANALYSIS I
MATH GU4062	INTRO MODERN ANALYSIS II
MATH GU4156	ADVANCED PROBABILITY THEORY
<b>Approved Cognate Electives</b>	
COMS W3203	DISCRETE MATHEMATICS
IEOR E3106	STOCHASTIC SYSTEMS AND APPLICATIONS
PHIL GU4561	PROBABILITY # DECISION THEORY
PHYS GU4023	THERMAL # STATISTICAL PHYSICS
STAT GU4204	STATISTICAL INFERENCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance
STAT GU4264	STOCHASTIC PROCESSES-APPLIED

## Prerequisites

Prerequisites for the courses in (1) Multivariable calculus and (2) Linear Algebra are as follows:

- MATH UN1201 CALCULUS III: requires MATH UN1101 CALCULUS I
- MATH UN1205 ACCELERATED MULTIVARIABLE CALC: requires MATH UN1101 CALCULUS I and MATH UN1102 CALCULUS II
- MATH UN2010 LINEAR ALGEBRA: MATH UN1201 CALCULUS III (strongly recommended)
- MATH UN2015 Linear Algebra and Probability: MATH UN1101 CALCULUS I (strongly recommended)

Prerequisites for the courses in (3) Probability Theory are as follows:

- MATH GU4155 PROBABILITY THEORY: MATH GU4061 INTRO MODERN ANALYSIS I (approved elective)
- STAT GU4203 PROBABILITY THEORY: At least one semester, and preferably two, of calculus. An introductory course (STAT UN1201 CALC-BASED INTRO TO STATISTICS, preferably) is strongly recommended
- IEOR E3658 PROBABILITY FOR ENGINEERS: Solid knowledge of calculus, including multiple variable integration

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## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### CONCENTRATION IN MATHEMATICS

The concentration requires the following:

**Mathematics**

Select one of the following three multivariable calculus and linear algebra sequences:

MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1205 & MATH UN2010	ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B
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**Additional Courses**

Select at least 12 additional points from any of the courses offered by the department numbered 2000 or higher. A maximum of 3 credits may be taken from courses outside the department. <sup>2</sup>

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.
- <sup>2</sup> For mathematics courses taken in other departments, consult with the Director of Undergraduate Studies.

Any course given by the Mathematics department fulfills the General Studies quantitative reasoning requirement when passed with a satisfactory letter grade.

## CREATIVE WRITING

**Undergraduate Creative Writing Program Office:** 609 Kent; 212-854-3774  
<http://arts.columbia.edu/writing/undergraduate>

**Director of Undergraduate Studies:** Prof. Anelise Chen, Fiction, Nonfiction, 609 Kent; 212-854-3774;  
[ac4132@columbia.edu](mailto:ac4132@columbia.edu)

**Undergraduate Executive Committee:**

Prof. Anelise Chen, Fiction, Nonfiction, 609 Kent; 212-854-3774; [ac4132@columbia.edu](mailto:ac4132@columbia.edu)  
Prof. Heidi Julavits, Fiction, 609 Kent; 212-854-3774; [hj26@columbia.edu](mailto:hj26@columbia.edu)  
Prof. Dorothea Lasky, Poetry, 609 Kent; 212-854-3774; [dsl2121@columbia.edu](mailto:dsl2121@columbia.edu)

**• Undergraduate Advisory Committee:**

Prof. Anelise Chen, Fiction, Nonfiction, 609 Kent; 212-854-3774; [ac4132@columbia.edu](mailto:ac4132@columbia.edu)  
Prof. Timothy Donnelly, Poetry, 415 Dodge; 212-854-4391; [td28@columbia.edu](mailto:td28@columbia.edu)  
Prof. Margo Jefferson, Nonfiction, 609 Kent; 212-854-3774; [mlj4@columbia.edu](mailto:mlj4@columbia.edu)  
Prof. Heidi Julavits, Fiction, 609 Kent; 212-854-3774; [hj26@columbia.edu](mailto:hj26@columbia.edu)  
Prof. Dorothea Lasky, Poetry, 609 Kent; 212-854-3774; [dsl2121@columbia.edu](mailto:dsl2121@columbia.edu)

Prof. Sam Lipsyte, Fiction, 609 Kent; 212-854-3774;  
[sam.lipsyte@columbia.edu](mailto:sam.lipsyte@columbia.edu)

Prof. Deborah Paredez, Poetry, 609 Kent, [dp2783@columbia.edu](mailto:dp2783@columbia.edu)  
Prof. Alan Ziegler, Fiction, 415 Dodge; 212-854-4391; [az8@columbia.edu](mailto:az8@columbia.edu)

The Creative Writing Program in The School of the Arts combines intensive writing workshops with seminars that study literature from a writer's perspective. Students develop and hone their literary technique in workshops. The seminars (which explore literary technique and history) broaden their sense of possibility by exposing them to various ways that language has been used to make art. Related courses are drawn from departments such as English, comparative literature and society, philosophy, history, and anthropology, among others.

Students consult with faculty advisers to determine the related courses that best inform their creative work. For details on the major, see the Creative Writing website: <http://arts.columbia.edu/writing/undergraduate>.

## PROFESSORS

Margo L. Jefferson

Phillip Lopate

Benjamin Marcus

Alan Ziegler



## ASSOCIATE PROFESSORS

Susan Bernofsky  
 Timothy Donnelly  
 Rivka Galchen  
 Heidi Julavits  
 Dorothea Lasky  
 Victor LaValle  
 Sam Lipsyte  
 Deborah Paredez  
 Wendy Walters

## ASSISTANT PROFESSORS

Anelise Chen  
 Lynn Xu

## ADJUNCT PROFESSORS

Hannah L Assadi  
 Eliza B Callahan  
 Bonnie Chau  
 Meehan J Crist  
 Matty Davis  
 Alex Dimitrov  
 Joseph Fasano  
 Omer M Friedlander  
 Emily R Gutierrez  
 Lars Horn  
 Alexis J Hutchinson  
 Katrine Øgaard Jensen  
 Emily Christine C Johnson  
 Chloe Jones  
 Quincy S Jones  
 Sophie Kemp  
 Joss Lake  
 Holly Melgard  
 Marie Myung-Ok Lee  
 Emily Luan  
 Vanessa Martir  
 Kyle McCarthy  
 Patricia Marx  
 Molly L McGhee  
 Mallika Rao  
 Mark Rozzo  
 Zohra Saed  
 Rebecca J Schiff  
 Mina Seckin  
 Joel Sedaño Jr  
 Luciana Siracusanò  
 Wally Suphap  
 Adam Z Wilson  
 James C Yeh  
 Samantha Zighelboim

## LECTURER IN THE DISCIPLINE OF WRITING

Latif A Ba  
 Peter M Rafel  
 Ronald L Robertson Jr

## MAJOR IN CREATIVE WRITING

The major in creative writing requires a minimum of 36 points: five workshops, four seminars, and three related courses.

### Workshop Curriculum (15 points)

Students in the workshops produce original works of fiction, poetry, or nonfiction, and submit them to their classmates and instructor for a close critical analysis. Workshop critiques (which include detailed written reports and thorough line-edits) assess the mechanics and merits of the writing pieces. Individual instructor conferences distill the critiques into a direct plan of action to improve the work. Student writers develop by practicing the craft under the diligent critical attention of their peers and instructor, which guides them toward new levels of creative endeavor.

Creative writing majors select 15 points within the division in the following courses. One workshop must be in a genre other than the primary focus. For instance, a fiction writer might take four fiction workshops and one poetry workshop.

#### Beginning Workshop

Designed for students who have little or no previous experience writing literary texts in a particular genre.

WRIT UN1100	BEGINNING FICTION WORKSHOP
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WRIT UN1200	BEGINNING NONFICTION WORKSHOP
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WRIT UN1300	BEGINNING POETRY WORKSHOP
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#### Intermediate Workshop

Permission required. Admission by writing sample. Enrollment limited to 15. Course may be repeated in fulfillment of the major.

WRIT UN2100	INTERMEDIATE FICTION WORKSHOP
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WRIT UN2200	INTERMEDIATE NONFICTION WRKSHp
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WRIT UN2300	INTERMEDIATE POETRY WORKSHOP
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#### Advanced Workshop

Permission required. Admission by writing sample. Enrollment limited to 15. Course may be repeated in fulfillment of the major.

WRIT UN3100	ADVANCED FICTION WORKSHOP
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WRIT UN3200	ADVANCED NONFICTION WORKSHOP
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## WRIT UN3300 ADVANCED POETRY WORKSHOP

### Senior Creative Writing Workshop

Seniors who are creative writing majors are given priority. Enrollment limited to 12, by instructor's permission. The senior workshop offers students the opportunity to work exclusively with classmates who are at the same high level of accomplishment in the major. This course is only offered by graduate faculty professors.

WRIT UN3101 SENIOR FICTION WORKSHOP, Senior Fiction Workshop

WRIT UN3201 SENIOR NONFICTION WORKSHOP

WRIT UN3301 SENIOR POETRY WORKSHOP

## Seminar Curriculum (12 points)

The creative writing seminars form the intellectual ballast of our program. Our seminars offer a close examination of literary techniques such as plot, point of view, tone, and voice. They seek to inform and inspire students by exposing them to a wide variety of approaches in their chosen genre.

Our curriculum, via these seminars, actively responds not only to historical literary concerns, but to contemporary ones as well. Extensive readings are required, along with short critical papers and/or creative exercises. By closely analyzing diverse works of literature and participating in roundtable discussions, writers build the resources necessary to produce their own accomplished creative work.

Creative writing majors select 12 points within the division. Any 4 seminars will fulfill the requirement, no matter the student's chosen genre concentration. Below is a sampling of our seminars. The list of seminars currently being offered can be found in the "Courses" section.

These seminars offer close examination of literary techniques such as plot, point of view, tone, suspense, and narrative voice. Extensive readings are required, along with creative exercises.

### FICTION

WRIT UN3121 HOW TO BUILD A PERSON

WRIT UN3117 Fiction Seminar: The Here & Now

WRIT UN3122 FIRST NOVELS: HOW THEY WORK

WRIT UN3120 THE CRAFT OF WRITING DIALOGUE

### NONFICTION

WRIT UN3213 Nonfiction Seminar: The Literary Reporter

WRIT UN3215 ART WRITING FOR WRITERS

WRIT UN3216 TRUTH # FACTS

WRIT UN3217 SCIENCE AND SENSIBILITY

### POETRY

WRIT UN2311 TRADITIONS IN POETRY

WRIT UN3313 Poetry Seminar: The Crisis of the I

WRIT UN3314 Poetry Seminar: 21st Century American Poetry and Its Concerns

WRIT GU4310 DOCUMENTARY POETICS

### CROSS GENRE

WRIT GU4011 Cross Genre Seminar: Imagining Berlin

WRIT GU4012 Cross Genre Seminar: Diva Voice, Diva Style, Diva Lyrics

WRIT UN3016 WALKING

WRIT UN3013 Cross-Genre Seminar: Process Writing & Writing Process

## Related Courses (9 points)

Drawn from various departments, these courses provide concentrated intellectual and creative stimulation, as well as exposure to ideas that enrich students' artistic instincts. Courses may be different for each student writer. Students should consult with faculty advisers to determine the related courses that best inform their creative work.

## DANCE

Office Location: 310 Barnard Hall

Office Phone: 212-854-2995

Email: [dance@barnard.edu](mailto:dance@barnard.edu)

Director of Undergraduate Studies: Paul Scolieri, [pscolieri@barnard.edu](mailto:pscolieri@barnard.edu)

Department Assistant: Diane Roe, [droe@barnard.edu](mailto:droe@barnard.edu), 212-854-2995

## THE DEPARTMENT OF DANCE MISSION

The Barnard College Department of Dance, located in a world dance capital, offers an interdisciplinary program that integrates the study of dance within a liberal arts setting of intellectual and creative exploration. The major builds upon studio courses, the Department's productions at Miller Theater, New York Live Arts, and other venues, as well as a rich array of dance studies courses, allowing students' creative work to develop in dialogue with critical inquiry into the history, culture, theory and forms of western and non-western performance, typically enhanced by study in other disciplines. Students work with accomplished artists whose work enriches contemporary American dance; they also study with outstanding research scholars.

Making, thinking about, and writing about art are an essential part of the liberal arts education. For this reason, the Department of Dance offers technique courses for students of all levels of expertise, while opening its other courses to majors and non-majors alike, who may also audition for its productions. The Department partners with cultural

institutions in New York City to connect students with the professional world.

## STUDENT LEARNING OUTCOMES

Students graduating with a major in Dance should be able to attain the following outcomes:

- Apply critical thinking, reading, and writing skills to dance-related texts and choreography.
- Develop the knowledge and research skills to explore the dance past in writing, orally, and in performance.
- Present interpretations of dance-related texts orally, in writing, and in performance.
- Apply library, archival, and internet research skills to dance scholarship and choreography.
- Demonstrate improved efficiency and expressivity in dance technique.
- Demonstrate growing technical understanding and fluency in dance technique.
- Create original dances, dance/theater works or dance-based, mixed media works.
- Collaborate with an artist in the creation of original dance works.
- Participate in the creative process through the creation and interpretation of choreography.
- Apply interdisciplinary research methods to dance scholarship and choreography.
- Apply historical research methods to dance scholarship and choreography.
- Demonstrate conceptual and methodological approaches for studying world dance forms through research and writing.
- Demonstrate the ability to understand cultural and historical texts in relation to dance forms.
- Apply anatomical knowledge to movement and movement concepts.
- Evaluate the theoretical and artistic work of peers.
- Communicate with an audience in oral presentations and dance performance.
- Understand and interpret the language and form of an artist's choreography.
- Solve technical problems in dance movement.
- Apply musical knowledge to movement and choreography.
- Design choreographic movement and structures.

## PROGRAMS OF STUDY

### Major

### Minor

Concentration (only for students who entered Columbia College in or before the 2023-2024 academic year)

## STUDENT ADVISING

### Advising Resources

- Newly declared or prospective dance majors and minors should consult with the Dance Department Chair.
- Sign up for the Dance Department Listserv by contacting [dance@barnard.edu](mailto:dance@barnard.edu)
- The Dance Department holds 2 program planning meetings a year (one in the fall and one in the spring).

### Enrolling in Courses

Technique class levels are confirmed during the shopping period. You must attend the first 2 classes.

Rehearsal and Performance DNCE BC 3601- DNCE BC 3607 requires an audition usually scheduled for the first week of classes.

### Transfer Credit

- When students wish to transfer credit to Barnard from other institutions, their coursework is first evaluated for college elective credit by the Registrar's Office. If they are approved, departments can consider these courses for credit toward the major or minor.
- Transfer students should send their transcripts to the Dance Department Chair for credit evaluation.

### Study Abroad Credit

- Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Global Engagement) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus.
- Classes taken abroad through other institutions or programs are treated as transfer credit and are subject to the same policies as other transfer courses. Accordingly, there will be a limit on the number of study abroad courses taken at other institutions that can be counted toward the major or minor.
- To receive credit toward the major or minor for a study abroad course (whether taken through a Columbia program or another institution/program), students must submit a Study Abroad Approval form through Slate and obtain the approval of the Chair or departmental representative.

# Summer Credit

- Summer courses at Barnard are equivalent to those taken during the academic year. Courses that have been approved for the fulfillment of departmental requirements will automatically count toward your major.
- Courses taken at other institutions (including Columbia) are considered transfer credit and are subject to the same governing other transfer courses. To receive major or minor credit for a summer course taken at another institution, students must submit a Summer Course form through Slate and have it approved by both the Registrar's Office and the Chair or departmental representative.

# SENIOR CAPSTONE PROJECT

**Senior Seminar (DNCE BC3591)** is the capstone experience of your years of study as a dance major. It is probably the most challenging course you will take in the Department, because for so much of the time you will be working on your own, and because the thesis is probably the longest and most complex piece of analytical writing that you will undertake in college. No matter what your area of interest, you need to come up with a topic, create a bibliography, develop an original thesis, conduct in-depth research, and build a convincing argument in support of your claims. This is not a project that you can do overnight. By the same token, it is one that will stand you in good stead even if you never write another word about your topic. The process of conceptualizing, researching, writing, and revising a thesis – and the skills all this entails – will carry over into realms of activity very far from dance.

**Senior Project: Repertory for Dance (DNCE BC 3593)** is the culminating experience of your major work and is based on research, investigation, interpretation, and the creative synthesis of movement. As with Senior Seminar, there will be a good amount of time in which you are working on your own, whether it is creating the movement language and managing your rehearsal schedule (including studio space requests to the Technical Director), attending to the music-sound needs of your work with the Music Director, exploring multi-media possibilities, or creating/recreating/staging choreography or designing/resourcing costumes for your work. Students will work on their own creative project as well as offering support for each other's work throughout the semester.

**Chair:** Colleen Thomas-Young (Professor of Professional Practice in Dance)

**Professor:** Paul A. Scolieri

**Assistant Professor:** Seth Williams

**Associate Professors of Professional Practice in Dance:** Gabri Christa, Marjorie Folkman

**Senior Associate:** Katie Glasner

**Term Associate:** Vincent McCloskey

**Adjunct Professor:** Uttara Coorlawala

**Adjunct Lecturers:** Cynthia Anderson, Jennifer Archibald, Ehizoje Azeke, Rebecca Bliss, Lisa Boudreau, Candace Brown, Siobhan Burke, Maguette Camara, Antonio Carmena, Uttara Coorlawala, Francesca Dominguez, Dormeshia, Nicole Duffy, Allison Easter, Lisa Fagan, Caroline Fermin, Tamisha Guy, Chisa Hidaka, Jodi Melnick, Bo Park, Juan Rodriguez, Carol Teitelbaum, Nelida Tirado, Caitlin Trainor, Ashley Tuttle

# MAJOR IN DANCE

Majors must complete eleven academic courses (six required, five elective) and a minimum of eight 2-point technique courses (minimum 50 credits). All majors write a senior thesis as part of their coursework.

The required courses for the major in dance are distributed as follows:

## Dance History

The following two courses in Dance History must be completed before the fall of the senior year:

DNCE BC2565	WORLD DANCE HISTORY
DNCE BC3001	HISTORY OF THEATRICAL DANCING

## Movement Science

Select one or more of the following:

DNCE BC2562	MOVEMENT ANALYSIS
ANAT BC2573	HUMAN ANATOMY AND MOVEMENT
DNCE BC3144	Coding Choreography

## Composition

One course in Composition must be completed before the fall of the senior year.

DNCE BC2563	DANCE COMPOSITION: FORM
DNCE BC2564	DANCE COMPOSITION: CONTENT
DNCE BC3560	SCREENDANCE:COMPOSITIO
DNCE BC3565	Composition: Collaboration and the Creative Process
DNCE BC3566	Composition: Site Specific and Experimental Methods

## Senior Work

Seniors planning to write a combined thesis must request approval from both departments and notify the Registrar. All majors must complete two semesters of senior work. The following course, which culminates in a 25-30-page written thesis and an oral presentation to the Department at the end of the semester, is required of all seniors:

DNCE BC3591	SENIOR SEMINAR
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In addition, all majors must take one of the following two courses, depending on whether the senior requirement is completed with a creative project or a two-semester written thesis:

DNCE BC3592	Senior Project: Research for Dance
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3-4



### DNCE BC3593 SR PROJECT:REPERTORY FOR DANCE

Students who are double majors may request permission to write a two-semester combined thesis.

#### Electives

Five additional 3- or 4-point courses, chosen in consultation with the major advisor, are required. 15-20

Electives may be chosen from among the departmental offerings listed above or below, including additional coursework in Composition, Movement Science, and/or Senior Work beyond the major requirement.

#### History/Criticism:

DNCE BC2570 DANCE IN NEW YORK CITY

DNCE BC3000 From Page to Stage: Interactions of Literature and Choreography

DNCE BC3002 Choreographing Race in America

DNCE BC3200 DANCE IN FILM

DNCE BC3240 SEEING THE BODY

DNCE BC3550 Dance in Africa

DNCE BC3567 DANCES OF INDIA

DNCE BC3576 DANCE CRITICISM

DNCE BC3585 DEVISING IMMERSIVE PERFORMANCE

DNCE BC3800 Dismantling Racism/Decolonizing Dance

DNCE BC3984 Digital Performance

#### Studio/Performance:

DNCE BC2567 MUSIC FOR DANCE

DNCE BC3340 Dance/Music Improvisation: Critical Practices in Negotiation, Embodiment, and Freedom

DNCE BC3601 REHEARSAL # PERFRMNC  
& DNCE BC3604 IN DANCE  
and REHEARSAL#  
PERFRMNC IN DANCE

## Overview of Major Requirements (11 total, plus 8 technique courses)

- 1 Movement Science
- 1 Composition
- 2 History
- 1 Senior Seminar
- 1 Senior Project (Research in Dance or Repertory for Dance)
- 5 Electives
- 8 Technique Courses

### Senior Work

All dance majors must complete two semesters of senior work. DNCE BC3591 SENIOR SEMINAR given in the fall semesters, requires a 25-30 page written thesis and an oral presentation to the Department at the end of the semester. The second semester is usually a performance project for which the student registers in DNCE BC3593

SR PROJECT:REPERTORY FOR DANCE. Students may also choose to do a two-semester thesis, registering in DNCE BC3592 Senior Project: Research for Dance. Students who are double majors may request permission to do a two-semester combined thesis.

## BARNARD COLLEGE MINOR IN DANCE

Six courses constitute a minor in dance. Normally, three history/criticism and three credit-bearing performance/choreography courses are taken. (Note: 2-point technique courses do NOT count toward the Dance minor.) Courses are to be selected on the basis of consultation with full-time members of the department.

## COLUMBIA COLLEGE MINOR IN DANCE

Five courses

1 Dance Studies (either World Dance or History of Theatrical Dancing)

1 Composition (either Form or Content)

3 Electives (Choose any 3- and 4 -point courses from among offerings in Dance Studies, Composition, Movement Science, and Rehearsal & Performance)

## CONCENTRATION IN DANCE

Note: Only for students who entered Columbia College on or before the 2023-2024 academic year)

The concentration in dance is identical to the major except that only two electives are required.

For the major requirements, please see above.

## Overview of Concentration Requirements (8 total, plus 8 technique classes)

- 1 Movement Science
- 1 Composition
- 2 History
- 1 Senior Seminar
- 1 Senior Project (Research in Dance or Repertory for Dance)
- 2 Electives
- 8 Technique Classes

## SCHOOL OF ENGINEERING AND APPLIED SCIENCES MINOR IN DANCE

The SEAS Dance Minor consists of five 3-point courses. Please note that no performance/choreography courses below count toward the non-tech requirement for SEAS students:

1. Two of the following history/criticism courses:

DNCE BC2565 WORLD DANCE HISTORY



DNCE BC2570	DANCE IN NEW YORK CITY
DNCE BC3000	From Page to Stage: Interactions of Literature and Choreography
DNCE BC3001	HISTORY OF THEATRICAL DANCING
DNCE BC3002	Choreographing Race in America
DNCE BC3200	DANCE IN FILM
DNCE BC3240	SEEING THE BODY
DNCE BC3550	Dance in Africa
DNCE BC3567	DANCES OF INDIA
DNCE BC3576	DANCE CRITICISM
DNCE BC3585	DEVISING IMMERSIVE PERFORMANCE
DNCE BC3800	Dismantling Racism/ Decolonizing Dance
DNCE BC3984	Digital Performance
2. Two of the following performance/choreography courses:	
DNCE BC2563	DANCE COMPOSITION: FORM
DNCE BC2564	DANCE COMPOSITION: CONTENT
DNCE BC2567	MUSIC FOR DANCE
DNCE BC3340	Dance/Music Improvisation: Critical Practices in Negotiation, Embodiment, and Freedom
DNCE BC3601	REHEARSAL # PERFRMNCE IN DANCE
DNCE BC3602	Rehearsal and Performance in Dance
DNCE BC3603	Rehearsal and Performance in Dance
DNCE BC3604	REHEARSAL#PERFRMNCE IN DANCE
DNCE BC3605	REHEARSAL#PERFRMNCE IN DANCE
DNCE BC3607	Rehearsal and Performance in Dance

3. One elective (Choose any 3- or 4-point course from offerings in Dance Studies, Composition, Movement Science, and Rehearsal & Performance)

## DATA SCIENCE

### THE COMPUTER SCIENCE DEPARTMENT:

Department website: <http://www.cs.columbia.edu>

Office location: 450 Mudd

Office contact: [ug-advising@cs.columbia.edu](mailto:ug-advising@cs.columbia.edu)

Director of Undergraduate Studies: Dr. Jae Woo Lee, 715 CEPSR; 212-939-7066; [jae@cs.columbia.edu](mailto:jae@cs.columbia.edu)

Undergraduate Administrator: CS Advising, [ug-advising@cs.columbia.edu](mailto:ug-advising@cs.columbia.edu)

## THE COMPUTER SCIENCE MAJOR

Students study a common core of fundamental topics, supplemented by a program of six electives that provides a high degree of flexibility. Three of the electives are chosen from a list of upper-level courses that represent area foundations within computer science. The remaining electives are selected from the complete list of upper-level computer science courses. Students are encouraged to work with their faculty advisor to create a plan tailored to fit their goals and interests. The department webpage provides several example programs for students interested in a variety of specific areas in computer science.

Our website is always the most current in terms of information and has many FAQs for students. Please view this here: [cs.columbia.edu](https://cs.columbia.edu) and contact [ug-advising@cs.columbia.edu](mailto:ug-advising@cs.columbia.edu) with any questions.

## STUDENT ADVISING

### Consulting Advisers

Undergraduate students will be assigned a CS Faculty Advisor from the list on the CS website - <https://www.cs.columbia.edu/education/undergraduate/advisors/>. Students will typically have the same advisor throughout their time in the program. However, students are encouraged to check this list at the start of every term to ensure their advisor remains the same. To reach out to your CS Faculty Advisor, please email first or visit during office hours.

### Enrolling in Classes

Computer Science Department courses are needed by many student populations and are in high demand. To facilitate all COMS students getting the courses they need and distribute seats fairly, please refer to our policy - <https://www.cs.columbia.edu/cs-course-registration-policy/>

### Preparing for Graduate Study

The department offers a number of options at the graduate level, including the MS Express. Please refer to our FAQs - <https://www.cs.columbia.edu/education/admissions8/> - or email [ms-admissions@cs.columbia.edu](mailto:ms-admissions@cs.columbia.edu) with any questions.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The department grants 3 points for a score of 4 or 5 on the AP Computer Science A exam, along with an exemption from [COMS W1004](#) Introduction to Computer Science and Programming in Java. However, we recommend that you take COMS W1004 before taking COMS W3134/W3137

Data Structures if you received a score of 4 or have not programmed in Java recently.

## Barnard College Courses

Any course offered by the Computer Science @Barnard department can count towards degree requirements. Please refer to the major and minor program information pages for specific information.

## Transfer Courses

Up to four transfer courses are accepted toward the major. Up to two transfer courses are accepted toward the minor. Calculus, linear algebra, and probability/statistics courses can be transferred in addition to the four/two-course limits. Each course must be approved as equivalent by the faculty who teaches it at Columbia. Please refer to the guide here - <https://www.cs.columbia.edu/education/undergraduate/#sec8>

## Study Abroad Courses

If you are considering studying abroad, please consult with the CS Advisor as soon as possible. Each course for potential incorporation into your CS major or minor must be approved as equivalent by the faculty who teaches it at Columbia.

## Summer Courses

Any Computer Science or approved cognate course offered during the summer session will count towards the degree, with the exception of online-only courses, which do not count towards degree requirements.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

#### COMS W3998 UNDERGRAD PROJECTS IN COMPUTER SCIENCE. 1.00-3.00 points.

Prerequisites: Approval by a faculty member who agrees to supervise the work.

Independent project involving laboratory work, computer programming, analytical investigation, or engineering design. May be repeated for credit. Consult the department for section assignment.

#### COMS W4901 Projects in Computer Science. 1-3 points.

Prerequisites: Approval by a faculty member who agrees to supervise the work.

A second-level independent project involving laboratory work, computer programming, analytical investigation, or engineering design. May be repeated for credit, but not for a total of more than 3 points of degree credit. Consult the department for section assignment.

## Senior Thesis Coursework and Requirements

A thesis is not a requirement for the major or minor.

### COMS W3902 UNDERGRADUATE THESIS. 0.00-6.00 points.

Prerequisites: Agreement by a faculty member to serve as thesis adviser.

An independent theoretical or experimental investigation by an undergraduate major of an appropriate problem in computer science carried out under the supervision of a faculty member. A formal written report is mandatory and an oral presentation may also be required. May be taken over more than one term, in which case the grade is deferred until all 6 points have been completed. Consult the department for section assignment

## Undergraduate Research Outside of Courses

### Laboratory Facilities

The department has well-equipped lab areas for research in computer graphics, computer-aided digital design, computer vision, databases and digital libraries, data mining and knowledge discovery, distributed systems, mobile and wearable computing, natural language processing, networking, operating systems, programming systems, robotics, user interfaces, and real-time multimedia.

Research labs contain several large Linux and Solaris clusters; Puma 500 and IBM robotic arms; a UTAH-MIT dexterous hand; an Adept-1 robot; three mobile research robots; a real-time defocus range sensor; interactive 3-D graphics workstations with 3-D position and orientation trackers; prototype wearable computers, wall-sized stereo projection systems; see-through head-mounted displays; a networking testbed with three Cisco 7500 backbone routers, traffic generators; an IDS testbed with secured LAN, Cisco routers, EMC storage, and Linux servers; and a simulation testbed with several Sun servers and Cisco Catalyst routers.

The department uses a SIP IP phone system. The protocol was developed in the department.

The department's computers are connected via a switched 1Gb/s Ethernet network, which has direct connectivity to the campus OC-3 Internet and internet 2 gateways. The campus has 802.11b/g wireless LAN coverage.

The research facility is supported by a full-time staff of professional system administrators and programmers.

### Participating in Research Projects

Students can reach out to professors whose research areas are of interest to them. Professors will typically require that students have completed the relevant coursework covering the background knowledge and skills.

Once a faculty member agrees to supervise the student's research work, the student will register for the professor's section of COMS W3998 or W4901.

### **COMS W3998 UNDERGRAD PROJECTS IN COMPUTER SCIENCE. 1.00-3.00 points.**

Prerequisites: Approval by a faculty member who agrees to supervise the work.

Independent project involving laboratory work, computer programming, analytical investigation, or engineering design. May be repeated for credit. Consult the department for section assignment

### **COMS W4901 Projects in Computer Science. 1-3 points.**

Prerequisites: Approval by a faculty member who agrees to supervise the work.

A second-level independent project involving laboratory work, computer programming, analytical investigation, or engineering design. May be repeated for credit, but not for a total of more than 3 points of degree credit. Consult the department for section assignment.

## **DEPARTMENT HONORS AND PRIZES**

### **Department Honors**

The Computer Science Department does not award departmental honors.

### **Academic Prizes**

Jonathan L. Gross Award for Academic Excellence: This award was established in 2017 in honor of the much loved Professor Emeritus Jonathan Gross. Each year a cash gift is awarded to one graduating masters student and to one graduating senior from each of the four undergraduate schools served by the Department of Computer Science.

Theodore R. Bashkow Award: Presented to a computer science senior who has excelled in independent projects. This is awarded in honor of Professor Theodore R. Bashkow, whose contributions as a researcher, teacher, and consultant have significantly advanced the state of the art of computer science.

Andrew P. Kosoresow Memorial Award for Excellence in Teaching and Service: Awarded for outstanding contributions to teaching in the Department of Computer Science and exemplary service to the Department and its mission.

Computer Science Scholarship Award: A cash prize awarded to two B.A. and two B.S. degree candidates for outstanding academic achievement in computer science.

Russell C. Mills Award: This annual award, established by the computer science department in 1992 in memory of Russell C. Mills, is a cash prize given to a computer science

major who has exhibited excellence in the area of computer science.

## **OTHER IMPORTANT INFORMATION**

See the Requirements section for the policies on double counting and D grades.

## **PROFESSORS**

Peter N. Belhumeur  
Steven M. Bellovin  
Luca Carloni  
Xi Chen  
Steven K. Feiner  
Luis Gravano  
Julia B. Hirschberg  
Gail E. Kaiser  
John R. Kender  
Tal Malkin  
Kathleen R. McKeown  
Vishal Misra  
Shree Kumar Nayar  
Jason Nieh  
Christos Papadimitriou  
Itsik Pe'er  
Toniann Pitassi  
Kenneth A. Ross  
Tim Roughgarden  
Daniel S. Rubenstein  
Henning G. Schulzrinne  
Rocco A. Servedio  
Simha Sethumadhavan  
Salvatore J. Stolfo  
Bjarne Stroustrup  
Vladimir Vapnik  
Jeannette Wing  
Junfeng Yang  
Mihalis Yannakakis  
Richard Zemei

## **ASSOCIATE PROFESSORS**

Alexandr Andoni  
Elias Bareinboim  
Augustin Chaintreau  
Stephen A. Edwards  
Roxana Geambasu  
Daniel Hsu  
Suman Jana  
Martha Allen Kim  
Baishakhi Ray  
Carl Vondrick  
Eugene Wu  
Zhou Yu  
Changxi Zheng  
Xia Zhou

## ASSISTANT PROFESSORS

Josh Alman  
Lydia Chilton  
Ronghui Gu  
Kostis Kaffes  
David Knowles  
Brian Smith  
Henry Yuen

## SENIOR LECTURER IN DISCIPLINE

Paul Blaer  
Adam Cannon  
Jae Woo Lee

## LECTURER IN DISCIPLINE

Daniel Bauer  
Brian Borowski  
Tony Dear

## ASSOCIATED FACULTY JOINT

Andrew Blumberg  
Shih-Fu Chang  
Feniosky Peña-Mora  
Clifford Stein

## AFFILIATES

Shipra Agrawal  
Mohammed AlQuraishi  
Elham Azizi  
Paolo Blikstein  
Asaf Cidon  
Matei Ciocarlie  
Rachel Cummings  
Noemie Elhadad  
Javad Ghaderi  
Gamze Gursoy  
Xiaofan Jiang  
Ethan Katz-Bassett  
Hod Lipson  
Smaranda Muresan  
Liam Paninski  
Brian Plancher  
Mark Santolucito  
Lisa Soros  
Barbara Tversky  
Venkat Venkatasubramanian  
Rebecca Wright  
Gil Zussman

## SENIOR RESEARCH SCIENTISTS

Gaston Ormazabal  
Moti Yung

## EMERITUS

Alfred V. Aho  
Peter K. Allen  
Edward G. Coffman Jr.  
Zvi Galil  
Jonathan L. Gross  
Steven M. Nowick  
Stephen H. Unger  
Henryk Wozniakowski  
Yechiam Yemini

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

The following requirements are new as of the academic year 2023-2024. Students who declared a CS major in the academic year 2022-2023 or earlier have the option to follow the old requirements. The old requirements are noted on [the Undergraduate Programs pages](https://www.cs.columbia.edu/education/undergraduate/) of the Computer Science Department website (<https://www.cs.columbia.edu/education/undergraduate/>).

Please note that the information on the department website is more up-to-date than the information in the archived Bulletins. Students with questions about which requirements to follow are advised to talk with ug-advising@cs.columbia.edu.

### Restrictions on overlapping courses

Students may receive credit for only one of the following two courses:

- [COMS W1004](#) Introduction to Computer Science and Programming in Java
- [COMS W1005](#) Introduction to Computer Science and Programming in MATLAB.

Students may receive credit for only one of the following three courses:

- [COMS W3134](#) Data Structures in Java
- [COMS W3136](#) ESSENTIAL DATA STRUCTURES
- [COMS W3137](#) HONORS DATA STRUCTURES # ALGOL

COMS W1005 and COMS W3136 cannot be counted towards the Computer Science major, minor, and concentration.

No more than 6 points of project/thesis courses (COMS W3902, W3998, W4901) can count toward the major. COMS W3999 Fieldwork cannot be used as a CS Elective.

No more than one course from each set below may be applied towards the computer science major:

- IEOR E3658, STAT UN1201, MATH UN2015
- MATH UN2015, MATH UN2010, APAM E3101, COMS W3251
- COMS W4771, COMS W4721

## Double Counting

Double-counting policies are to be construed within the larger double-counting policy of the student's home school. Double-counting policies are detailed on each School's Bulletin and/or Catalog.

The CS department allows the following courses in the CS Core and Mathematics requirement to be double-counted with another major, minor, or concentration. No other courses can be double-counted with another program.

- COMS W1004
- Any calculus courses (including Honors Math A and B)
- One Linear Algebra course
- One Probability/Statistics course

## Grading

A maximum of one course worth no more than 4 points passed with a grade of D may be counted toward the major or minor.

## Course Numbering Structure

The first digit indicates the level of the course, as follows:

0 Course that cannot be credited toward any degree

1 Undergraduate course

2 Undergraduate course, intermediate

3 Undergraduate course, advanced

4 Graduate course that is open to qualified undergraduates

6 Graduate course

8 Graduate course, advanced

9 Graduate research course or seminar

## Guidance for First-Year Students

### Pre-Introductory Courses

COMS W1004 is the first course in the Computer Science major curriculum, and it does not require any previous computing experience. Before taking COMS W1004, however, students have an option to start with one of the pre-introductory courses: ENGI E1006 or COMS W1002.

ENGI E1006 Introduction to Computing for Engineers and Applied Scientists is a general introduction to computing for STEM students. ENGI E1006 is in fact a required course for all engineering students. COMS W1002 Computing in Context is a course primarily intended for humanities majors, but it also serves as a pre-introductory course for CS majors.

ENGI E1006 and COMS W1002 do not count towards Computer Science major.

### Guidance for Transfer Students

Up to four transfer courses are accepted toward the major. Up to two transfer courses are accepted toward the minor or concentration. Calculus, linear algebra, and probability/statistics courses can be transferred in addition to the four/two-course limits.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in Computer Science

All majors should confer with their program adviser each term to plan their programs of study. Students considering a major in computer science are encouraged to talk to a program adviser during their first or second year. The Computer Science major is composed of four basic components: The Mathematics Requirement, the Computer Science Core, the Area Foundation Courses, and the Computer Science Electives.

### Mathematics Requirement (6-11 points)

**Calculus Requirement: Select one of the following courses:**

MATH UN1201	CALCULUS III
MATH UN1205	ACCELERATED MULTIVARIABLE CALC
APMA E2000	MULTV. CALC. FOR ENGI # APP SCI

Note that MATH UN1201 (Calculus III) requires Calculus I as a prerequisite but does NOT require Calculus II. MATH UN1205 and APMA E2000, however, require both Calculus I and Calculus II as prerequisites.

**Linear Algebra Requirement: Select one of the following courses:**

COMS W3251	COMPUTATIONAL LINEAR ALGEBRA (recommended)
MATH UN2010	LINEAR ALGEBRA
MATH UN2015	Linear Algebra and Probability



MATH UN2020	Honors Linear Algebra
APMA E2101	INTRO TO APPLIED MATHEMATICS
APMA E3101	APPLIED MATH I: LINEAR ALGEBRA

**Probability / Statistics Requirement: Select one of the following courses:**

MATH UN2015	Linear Algebra and Probability
IEOR E3658	PROBABILITY FOR ENGINEERS
STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS

NOTE: Math 2015 Linear Algebra and Probability may simultaneously satisfy both linear algebra and probability requirements without the need to take additional classes thus reducing the total number of points required.

**Pre-intro course (Optional, 3-4 points)**

ENGI E1006	INTRO TO COMP FOR ENG/ APP SCI (recommended but not required)
or COMS W1002	COMPUTING IN CONTEXT

**Computer Science Core (20-21 points):**

**First Year**

COMS W1004	Introduction to Computer Science and Programming in Java
or COMS W1007	

**Sophomore Year**

COMS W3134	Data Structures in Java
or COMS W3137	HONORS DATA STRUCTURES # ALGOL
COMS W3157	ADVANCED PROGRAMMING
COMS W3203	DISCRETE MATHEMATICS

**Junior and Senior Year**

Complete the remaining required core courses:

COMS W3261	COMPUTER SCIENCE THEORY
CSEE W3827	FUNDAMENTALS OF COMPUTER SYSTS

**Area Foundation Courses (9 to 12 points):**

Select three from the following list:

COMS W4111	INTRODUCTION TO DATABASES
COMS W4113	FUND-LARGE-SCALE DIST SYSTEMS
COMS W4115	PROGRAMMING LANG # TRANSLATORS
COMS W4118	OPERATING SYSTEMS I

COMS W4119	COMPUTER NETWORKS
COMS W4152	Engineering Software-as-a-Service
COMS W4156	ADVANCED SOFTWARE ENGINEERING
COMS W4160	COMPUTER GRAPHICS
COMS W4167	COMPUTER ANIMATION
COMS W4170	USER INTERFACE DESIGN
COMS W4181	SECURITY I
CSOR E4231	ANALYSIS OF ALGORITHMS I
COMS W4236	INTRO-COMPUTATIONAL COMPLEXITY
COMS W4701	ARTIFICIAL INTELLIGENCE
COMS W4705	NATURAL LANGUAGE PROCESSING
COMS W4731	Computer Vision I: First Principles
COMS W4733	COMPUTATIONAL ASPECTS OF ROBOTICS
CBMF W4761	COMPUTATIONAL GENOMICS
COMS W4771	MACHINE LEARNING
CSEE W4824	COMPUTER ARCHITECTURE
CSEE W4868	SYSTEM-ON-CHIP PLATFORMS

**Computer Science Electives (9 to 12 points)**

Any three COMS courses or jointly offered computer science courses such as CSXX or XXCS course that are worth at least 3 points and are at the 3000 level or above. This includes 3000-level courses offered by Barnard CS.

**Restrictions**

No more than 6 points of project/thesis courses (COMS W3902, W3998, W4901) can count toward the major. COMS W3999 Fieldwork cannot be used as a CS Elective.

No more than one course from each set below may be applied towards the computer science major:

- IEOR E3658, STAT UN1201, MATH UN2015
- MATH UN2015, MATH UN2010, APAM E3101, COMS W3251
- COMS W4771, COMS W4721

**Major in Computational Biology**

For a description of the joint major in computer science—Biology, see the [Biological Sciences](#) section in this bulletin.

## Major in Computer Science - Mathematics

For a description of the joint major in computer science—mathematics, see the *Mathematics* section in this bulletin.

## Major in Information Science

The major in information science requires a minimum of 33 points, including a core requirement of five courses. Adjustments were made to the course lists below in March 2022.

The elective courses must be chosen with a faculty adviser to focus on the modeling and use of information within the context of a disciplinary theme. After discussing potential selections, students prepare a proposal of study that must be approved by the faculty adviser. In all cases, the six courses must be at the 3000 level or above, with at least three courses chosen from computer science. Following are some example programs. For more examples or templates for the program proposal, see a faculty adviser.

Note: In most cases, additional courses will be necessary as prerequisites in order to take some of the elective courses. This will depend on the student's proposed program of study.

COMS W1001	Introduction to Information Science
or COMS W1002 Computing in Context	
COMS W1004	Introduction to Computer Science and Programming in Java
COMS W3107	Clean Object-Oriented Design
COMS W3134	Data Structures in Java
STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS

Following are some suggested programs of instruction:

### Information Science and Contemporary Society

Students may focus on how humans use technology and how technology has changed society.

The requirements include:

COMS W4111	INTRODUCTION TO DATABASES
COMS W4170	USER INTERFACE DESIGN
COMS W4701	ARTIFICIAL INTELLIGENCE
COMS W3410	COMPUTERS AND SOCIETY
SOCI UN3010	METHODS FOR SOCIAL RESEARCH
SOCI UN3960	SEMINAR - PROBLEMS OF LAW # SOCIETY

## Information Science and the Economy

Students may focus on understanding information modeling together with existing and emerging needs in economics and finance as well as algorithms and systems to address those needs.

The requirements include:

COMS W4111	INTRODUCTION TO DATABASES
COMS W4701	ARTIFICIAL INTELLIGENCE
COMS W4771	MACHINE LEARNING
ECON UN3412	INTRODUCTION TO ECONOMETRICS
ECON UN3025	FINANCIAL ECONOMICS
ECON UN3265	MONEY AND BANKING

## Information Science and Health Sciences

Students may focus on understanding information modeling together with existing and emerging needs in health sciences, as well as algorithms and systems to address those needs.

The requirements include:

COMS W4111	INTRODUCTION TO DATABASES
COMS W4170	USER INTERFACE DESIGN
COMS W4701	ARTIFICIAL INTELLIGENCE
BINF G4001	
BIOL W4037	Bioinformatics of Gene Expression
ECBM E3060/E4060	

## Major in Data Science

In response to the ever-growing importance of "big data" in scientific and policy endeavors, the last few years have seen explosive growth in theory, methods, and applications at the interface between computer science and statistics. The statistics and computer science departments have responded with a joint major that emphasizes the interface between the disciplines.

### Prerequisites (15 points)

MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II
MATH UN1201	CALCULUS III
MATH UN2010	LINEAR ALGEBRA
This introductory Statistics course:	
STAT UN1201	CALC-BASED INTRO TO STATISTICS

### Statistics (12 points)

STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE

STAT GU4205	LINEAR REGRESSION MODELS
STAT GU4241	STATISTICAL MACHINE LEARNING
or COMS W4771 Machine Learning	
<b>Computer Science (12 points)</b>	
Select one of the following courses:	
COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
COMS W1007	
ENGI E1006	INTRO TO COMP FOR ENG/ APP SCI
Select one of the following courses:	
COMS W3134	Data Structures in Java
COMS W3136	ESSENTIAL DATA STRUCTURES
COMS W3137	HONORS DATA STRUCTURES # ALGOL
Two required courses:	
COMS W3203	DISCRETE MATHEMATICS
CSOR W4231	ANALYSIS OF ALGORITHMS I
<b>Electives (15 points)</b>	
Select two of the following courses:	
STAT UN3106	APPLIED MACHINE LEARNING
STAT GU4206	STAT COMP # INTRO DATA SCIENCE
STAT GU4224	BAYESIAN STATISTICS
STAT GU4243	APPLIED DATA SCIENCE
STAT Q4242	Advanced Machine Learning
Select three of the following courses:	
COMS W3261	COMPUTER SCIENCE THEORY
COMS W4111	INTRODUCTION TO DATABASES
COMS W4130	
COMS W4236	INTRO-COMPUTATIONAL COMPLEXITY
COMS W4252	INTRO-COMPUTATIONAL LEARN THRY
Any COMS W47xx course EXCEPT W4771	

## Minor in Computer Science

Students who pass the Computer Science Advanced Placement Exam A with a 4 or 5 will receive 3 points and an exemption from COMS W1004.

The Computer Science Minor consists of 6 courses as follows:

1. COMS W1004: Intro to computer science and programming in Java (3) or COMS W1007: Honors intro to comp sci (3)
2. COMS W3134: Data structures in Java (3) or COMS W3137: Honors data structures and algorithms (4)
3. COMS W3203: Discrete mathematics (4)
4. One course of the following:  
COMS W3157: Advanced programming (4)  
COMS W3261: Comp science theory (3)  
CSEE W3827: Fundamentals of computer systems (3)
5. Any 3000-level or 4000-level COMS/CSXX/XXCS course of at least 3 points
6. Any 3000-level or 4000-level COMS/CSXX/XXCS course of at least 3 points OR one linear algebra or probability/statistics course from the following: APMA E3101, APMA E2101, MATH UN2010, MATH UN2015, IEOR E3658, STAT UN1201, STAT GU4001 or STAT GU4203.

## Restrictions

No more than 6 points of project/thesis courses (COMS W3902, W3998, W4901) can count toward the major. COMS W3999 Fieldwork cannot be used as a CS Elective.

No more than one course from each set below may be applied towards the computer science major:

- IEOR E3658, STAT UN1201, MATH UN2015
- MATH UN2015, MATH UN2010, APAM E3101, COMS W3251
- COMS W4771, COMS W4721

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Computer Science

The concentration in computer science requires a minimum of 22-24 points, as follows:

COMS W1004	Introduction to Computer Science and Programming in Java
or COMS W1007	
COMS W3134	Data Structures in Java

or COMS W3137	HONORS DATA STRUCTURES # ALGOL
COMS W3157	ADVANCED PROGRAMMING
COMS W3203	DISCRETE MATHEMATICS
COMS W3261	COMPUTER SCIENCE THEORY
CSEE W3827	FUNDAMENTALS OF COMPUTER SYSTS (or any 3 point 4000-level computer science course)
Select one of the following courses:	
COMS W3251	COMPUTATIONAL LINEAR ALGEBRA
MATH UN2010	LINEAR ALGEBRA
MATH UN2015	Linear Algebra and Probability
MATH V2020	Honors Linear Algebra
APMA E2101	INTRO TO APPLIED MATHEMATICS
APMA E3101	APPLIED MATH I: LINEAR ALGEBRA
IEOR E3658	PROBABILITY FOR ENGINEERS
STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS

## DRAMA AND THEATRE ARTS

### CONTACT US

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Professor Alice Reagan  
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#### Department Administrator:

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#### Senior Faculty Department Assistant:

Valerie Coates  
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## THE STUDY OF THEATRE

The undergraduate theatre major is housed in the Barnard College Department of Theatre, and is offered to all undergraduate Barnard College, Columbia College, and General Studies students (the Columbia major is designated “Drama and Theatre Arts”). The major program engages the disciplines of drama, theatre, and performance studies as a distinctive mode of intellectual and artistic inquiry. While Barnard and Columbia students fulfill the overall graduation requirements at their respective institutions (the Core at Columbia, Foundations at Barnard), major requirements are the same for all majors, who take foundational coursework in the literary, cultural, and embodied traditions of western and non-Western performance as well as courses in the practices of acting, directing, design, dramaturgy, playwriting, and management and technical theatre. All majors then specialize in a specific area and undertake advanced thesis work, leading either to a formal essay of original research, or to an artistic project (in acting, design, directing, dramaturgy, playwriting, solo performance, or stage and production management) that combines the practices of research and artistic creation. Barnard and Columbia students receive their degrees from their respective colleges of Columbia University.

The Barnard College Department of Theatre mounts a full season of productions in the Minor Latham Playhouse and the Glicker-Milstein Theatre, a crucible of investigation that is a credit-bearing element of the curriculum, and open to all undergraduate students for audition. A collaboration between students and professional theatre artists, the Department of Theatre productions are both a learning process and a scene of encounter, where perceptions are shaped for the attention and creative reflection of a larger public.

Barnard students may declare the major at any time; Columbia students have a major-selection period in the second year, but all students must declare the major by the spring semester of the sophomore year. The major requirements are spelled out below, and the process for choosing a thesis area as well: all Theatre/Drama and Theatre Arts majors complete a thesis as a capstone to their work in the degree. For more information about the major, please contact the Theatre Department office.

All majors must submit the online Theatre Major Declaration Form, available on the Department of Theatre website (theatre.barnard.edu); Barnard majors must also submit the Barnard Major Declaration Form via Slate. Prior to declaring the major, students should make an appointment with the Department Chair or their undergraduate advisor. All majors should introduce themselves to the Theatre Administrator in 333C Milbank Hall; she will add names to the departmental

listserv, and help students to keep up to date in important information about studying in the Department.

## MISSION

**Mission:** To engage imaginatively with the inheritance of the past, the questions of the present, and the possibilities of the future through embodied and intellectual inquiry into theatre and performance.

### What do we value?

In the Department of Theatre, faculty, staff, and students understand drama, theatre, and performance as artistic and social practices, and as means and objects of study that model the investigation and production, the making, of a sustainable, equitable, livable future. We pursue theatre and performance within the purpose of the university: to learn, explore, and fashion disciplines of inquiry, new ways of knowing and so new structures of knowledge. Theatre is a site of public encounter, and we undertake its many forms of collaboration in order to speak with the campus and the community, to perform an imaginative, ethical engagement of possibility: of critical dialogue among the arts, humanities, and sciences; of social and climate justice; of equity and inclusion; of the manifold joys of creative work across the regenerative interdisciplines of theatre and performance.

### What do we do?

In the Department of Theatre, faculty, staff, and students

**practice:** inquiry across a range of platforms of scholarly and artistic production that define and enlarge one another, participating in learning modes of embodiment, of spatial array, of visual and sonic design, of written expression, and of cultural interpretation across a range of forms

**create:** make art and make scholarship, in the understanding that theatre provides a process and a means for making oneself, and making a livable world

**learn:** the historical, cultural, social, political, and aesthetic contexts of drama, theatre and performance, and the contemporary practices of performance as means of seeing theatre today as an instrument of critical invention and ethical performative intervention

**collaborate:** with others with different skills effectively, productively, creatively, ethically, and equitably

**reflect:** on the process and the product of making, on the political and ideological work of aesthetics, on the interplay between creative work and equity, justice, and citizenship

### Who are we?

The Department of Theatre are

faculty and staff specialized in a wide range of disciplines, professional artists and scholars who engage in critical creation across a range of platforms

students majoring in Theatre, or taking courses as non-majors, pursuing a variety of paths toward their future. Among other avenues, our students have gone on to pursue further study in MFA and PhD programs in various fields, leading to professional careers in theatre, as well as to academic careers in the humanities, theatre, and performance studies. Many find the writing, performance, and collaborative skills developed in the study and practice of theatre essential in their future work in a variety of professional settings.

### Where are we?

The Department of Theatre

is in and of New York, the nation's theatrical capital, sustained by an unrivaled range of performance from Broadway to off-Broadway to off-off Broadway, and extending across the city's five boroughs

is part of the vibrant, diverse civic community of Morningside Heights and Harlem

is part of an energetic and distinguished academic community, making theatre, learning theatre, understanding the theoretical, social, cultural, ideological the work of theatre in conversation with the interrogative work of research across an academic campus

is engaged with the city, with a wide range of artists and scholars, and with our sustaining communities.

acknowledges its location in Lenapehoking, the territory of the Lenape people, as a step towards recognizing the traditional and enduring stewards of this land and disrupting the invisibility and ongoing erasure of Indigenous Peoples

*Department of Theatre, Barnard College*

## STUDENT LEARNING OUTCOMES

Upon completion of the major, successful students will be able to attain the following objectives:

- Critically assess the artistic ambitions and theoretical implications involved in the interpretation of historical and contemporary drama and theatrical performance,
- Create with proficiency in at least one area of creative work in the field: critical/research writing, acting, design, directing, dramaturgy, playwriting, solo performance, stage and production management

## PROGRAMS OF STUDY

Major in Theatre/Drama & Theatre Arts

Minor in Theatre/Drama & Theatre Arts

Options within the major:



## Drama and Theatre Studies Student Learning Outcomes

Students successfully completing drama studies, theatre studies, and performance studies coursework, or pursuing a Senior Thesis in Research, should be able to attain the following objectives:

1. Write clearly about dramatic literature, and about performance, including where applicable film performance;
2. Synthesize and evaluate contemporary criticism and research scholarship in writing;
3. Know specific authors, movements, periods, styles, and ideological structures in the history of drama, theatre, and performance (i.e., Shakespeare, American drama, Performative Cultures of the Third Reich, Black Theatre);
4. Use critical, theoretical, and historical concepts in the analysis of drama and performance.

## Acting Student Learning Outcomes

Students successfully completing coursework in acting or pursuing a Senior Thesis in Performance: Acting should be able to attain the following objectives:

1. Analyze dramatic texts and apply the analysis to developing a performable role/character;
2. Synthesize external elements with external elements (social mores, environment, historical context, status relationship to others) and internal elements (center of gravity, personal rhythm, speed, tempo) toward the expression of a character's physicality and emotionality;
3. Recognize and apply the fundamental concepts of character development: objectives, obstacles, actions, given circumstances;
4. Develop vocal, physical and emotional awareness and imagination, and explore techniques available to aid the actor in applying these elements in a conscious way during rehearsal and performance.

## Design Student Learning Outcomes

Students successfully completing coursework design or pursuing a Senior Thesis in Performance: Design should be able to attain the following objectives:

1. Analyze dramatic texts and translate that analysis into documents used in the production process (breakdowns, plots, etc.);
2. Collect images and texts that provide insight into the developing design idea, and accurately communicate historical and stylistic choices;
3. Demonstrate fluency with the craft of a design field – e.g. sketching, model making, drafting, sound and lighting plots, and associated software;

4. Perform collaboratively, adapting and informing their designs with ideas generated through conversation with colleagues, classmates, and advisors.

## Directing Student Learning Outcomes

Students successfully completing coursework in directing or pursuing a Senior Thesis in Performance: Directing should be able to attain the following objectives:

1. Recognize the different demands of different configurations of stage space;
2. Apply compositional tools;
3. Define production style and its influence on performance choices;
4. Communicate effectively with actors;
5. Analyze the historical, social, and aesthetic elements of a dramatic text as the basis for a directorial conception.

## Dramaturgy Student Learning Outcomes

Students successfully completing coursework dramaturgy or pursuing a Senior Thesis in Performance: Dramaturgy should be able to attain the following objectives:

1. Apply important critical and theoretical concepts to the analysis of dramatic writing and theatrical performance;
2. Synthesize and evaluate contemporary research scholarship and apply it to a specific production, including biographical, historical, and interpretive information;
3. Write clearly and effectively about the goals of a production, its critical contexts and purposes;
4. Communicate the critical stakes of a performance to a director and cast; to be able to work with a director in fashioning those stakes;
5. Edit dramatic scripts for production.

## Playwriting Student Learning Outcomes

Students successfully completing coursework in playwriting or pursuing a Senior Thesis in Performance: Playwriting should be able to attain the following objectives:

1. Create an individual theatrical voice in writing;
2. Construct dramatic and theatrical events onstage;
3. Communicate supportive critique to fellow writers;
4. Interpret plot and story, and to employ language and spectacle creatively;
5. Recognize dramatic structures, and be able to shape and hold an audience's attention.

## Stage and Production Management Student Learning Outcomes

Students successfully completing coursework in stage and production management or pursuing a Senior Thesis in

Performance: Stage and Production Management should be able to attain the following objectives:

1. Read and analyze a performance text from stage and production management perspectives;
2. Communicate with and coordinate the needs of all members of the production effectively;
3. Organize and manage the rehearsal process
4. Develop and update the production budget

## STUDENT ADVISING

### Advising Resources

For specific advising questions, we recommend you make an appointment with one of our academic advisers. All full-time faculty members in the Department of Theatre serve as advisers:

- Professor and Chair, W. B. Worthen
- Assistant Professor Yizhou Huang
- Professor of Professional Practice Alice Reagan
- Professor of Professional Practice Sandra Goldmark
- Senior Lecturer Shayoni Mitra
- Lecturer Gisela Cardenas

Students can email [theatre@barnard.edu](mailto:theatre@barnard.edu) to sign up for the department list-serv.

On our student billboards outside the theatre office at 336 and 333 Milbank there are flyers and information on the major, minor, and how to get involved in the department. Please visit this page on our website for the most up-to-date forms for the major: <https://theatre.barnard.edu/major-requirements>, and here for the minor: <https://theatre.barnard.edu/minor-requirements>.

There are semesterly open house/course planning events that students can attend to learn more about the upcoming semester. These are typically held in early November for information about the Spring semester, and early April for information about the Fall semester. Join the theatre listserv to stay up to date on these and other departmental events.

### Guidance for First-Year Students

Students interested in majoring in Theatre should consider taking three or four of the required classes in their first two years of study: the Critical Histories of Drama, Theatre, and Performance lectures (1 and 2), another lecture or seminar course in the field of drama, theatre, and performance “studies,” and/or a theatre praxis “studio” course.

#### General Rule: Attend the First Day of Class

Students are required to attend the first day of class; students who do not attend the first day who are registered for the course will be dropped. Students in acting classes who have been admitted to the course who do not attend the first class

meeting will be dropped. Some courses determine enrollment on the first day of class. If the course is over-enrolled, the instructor will determine a method for deciding which students get priority, and only those students present on the first day will be considered.

For more information on enrolling in Theatre Department courses as a first-year student, please see here: <https://theatre.barnard.edu/courses-first-year-students>

### Enrolling in Courses

The Barnard College Department of Theatre is open to any and all Columbia University undergraduates. While our productions require auditions, the program generally is open for enrollment, meaning interested students in or outside of the major may participate in courses as they choose.

#### Acting Pre-Requisites:

All students wishing to take Acting courses in the Theatre Department must first complete an Acting I class before moving on to the Acting II series. (Transfer students, please discuss transfer credit equivalencies with the Theatre Department office.)

Please see [here](#) for an up-to-date listing of our Acting course descriptions. Please note that Acting II: Acting Sondheim and Acting II: Contemporary Musical Theatre requires all interested students to submit a video singing audition as well as other information, detailed both on our website and in the course catalogue.

Finally, students majoring in theatre are required to apply for the concentration field in which they will complete a senior thesis. The application for senior thesis fields (acting, design, directing, dramaturgy, playwriting, solo performance, research) is due in January of the junior year (after 5th semester; 3 semesters remaining); students must be declared majors, and have taken formal coursework in the department in the potential field(s) of the senior thesis. Please see here for more information about the senior thesis: <https://theatre.barnard.edu/senior-thesis-0>

## PREPARATION FOR GRADUATE STUDY

Students interested in PhD studies in the field of literature, theatre, or performance studies should consult Profs. W. B. Worthen, Shayoni Mitra, and/or Yizhou Huang; students interested in MFA in design should consult Prof. Sandra Goldmark; in directing should consult Prof. Alice Reagan; in acting should consult Prof. Gisela Cardenas. All faculty are generally willing to be consulted on your next steps.

## COURSEWORK TAKEN OUTSIDE OF BARNARD

### Advanced Placement Credit

We do not count AP courses toward the major or the minor.

### Columbia College Courses

Several lecture/seminar courses at Columbia University may be counted toward the lecture/seminar requirement in the major or minor. Majors may count up to two courses not taken in the Department of Theatre toward the major; minors may count one. A list of such courses (typically Shakespeare, drama courses offered in the English department, and so on) is developed for each semester. Columbia English (ENTA) and Barnard English (ENTH) courses are typically counted; other courses should be approved by the Theatre Department office.

### Transfer Credit

When students wish to transfer credit to Barnard from other institutions, their coursework is first evaluated for college elective credit by the Registrar's Office. If they are approved, departments can consider these courses for credit toward the major or minor.

Students are allowed to count up to 2 courses taken elsewhere toward the Theatre major, provided they are similar in duration, number of meetings, and content to courses that fulfill the major offered in the department. Courses are evaluated by the Theatre Department office. Students must take all courses counting toward the minor at Barnard/Columbia. The THTR UN3150 and THTR UN3151 Critical Histories of Drama, Theatre, and Performance cannot be substituted for coursework elsewhere.

### Study Abroad Credit

Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Global Engagement) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus.

Classes taken abroad through other institutions or programs are treated as transfer credit and are subject to the same policies as other transfer courses. Accordingly, there will be a limit on the number of study abroad courses taken at other institutions that can be counted toward the major or minor.

To receive credit toward the major or minor for a study abroad course (whether taken through a Columbia program or another institution/program), students must submit a Study Abroad Approval form through Slate and obtain the approval of the Theatre Department office.

Students planning to study abroad should consult with the Theatre Department office regarding coursework taken abroad. Students studying in conservatory programs in London (RADA, BADA, etc.) typically take the equivalent

of 9 credits of acting (3 studio courses) and, if they take two "studies" courses, are awarded one "lecture/seminar" course for that work. They may count ONE course toward the studio requirement and ONE toward the lecture/seminar requirement.

### Summer Credit

Summer courses at Barnard are equivalent to those taken during the academic year. Courses that have been approved for the fulfillment of departmental requirements will automatically count toward the major/minor.

Courses taken at other institutions (including Columbia) are considered transfer credit and are subject to the same policies governing other transfer courses. To receive major or minor credit for a summer course taken at another institution, students must submit a Summer Course form through Slate and have it approved by both the Registrar's Office and the Theatre Department office.

## SENIOR CAPSTONE PROJECT

Barnard College has a long-standing commitment to preparing students in the major so that they may undertake a capstone project. All Barnard seniors are required to complete a senior project or thesis, an opportunity the Theatre/Drama & Theatre Arts major extends to all majors, whether from Barnard, Columbia College, or Columbia General Studies. The senior thesis project allows students to develop records of individual research that include theoretical engagement in the major discipline, the development of creative projects or research, and original empirical and interpretive analysis. The thesis review will be conducted by the full-time faculty of the department (Cardenas, Goldmark, Huang, Mitra, Reagan, H. Worthen, W.B. Worthen), in consultation with faculty in specific thesis fields.

Please see here for more detail on thesis options by concentration, and for information regarding the application: <https://theatre.barnard.edu/senior-thesis-0>

## DEPARTMENTAL HONORS AND PRIZES

### Departmental Honors

Departmental honors are awarded by the department largely based on overall GPA; Columbia and Barnard set a percentage of graduating majors eligible for this award. The Department also offers several other awards, the Kenneth Janes Award (Barnard student), Austin Quigley Award (Columbia College student), the Joseph Milton Fee award in playwriting, and the Dasha Amsterdam Epstein Awards (in acting, directing, design, dramaturgy, playwriting, and research). The Janes and Quigley awards are selected by the faculty; protocols for the Fee and Epstein awards are listed on the departmental website.

## Academic Prizes

Please see here for a comprehensive list of prizes, requirements, deadlines: <https://theatre.barnard.edu/prizes>

**Kenneth Janes Award** (Barnard student, no student self-nomination.)

**Austin E. Quigley Award** (Columbia student, no student self-nomination.)

### a. The Dasha Amsterdam Epstein Awards in Honor of Patricia Denison

**Acting:** \$1000 for achievement in acting, including acting solo performance and senior thesis festival; awarded to a graduating senior based on body of work in Theatre Department productions. Nominated and selected by Theatre Department faculty. (No student self-nomination.)

**Design and Production:** \$1000 for achievement in design and production, awarded to a graduating senior based on body of work at Barnard/Columbia. Students may self-nominate, and must have taken a class in design in the Department of Theatre to be eligible.

**Directing:** \$1000 for achievement in directing, awarded to a graduating senior based on body of work at Barnard/Columbia. Students may self-nominate, and must have taken a class in directing in the Department of Theatre to be eligible.

**Dramaturgy:** \$1000 for achievement in dramaturgy, awarded to a graduating senior based on body of work. Students may self-nominate, and must have taken a class in dramaturgy in the Department of Theatre to be eligible.

**Theory, Criticism, Research:** \$1000 for the best undergraduate essay written in a Theatre department class or other class such as English/Theatre (ENTH) class, Comparative Literature/Theatre (CPLT) or English/Theatre Arts (ENTA) class that fulfills Theatre major requirements; essays written as the Theatre major Senior Thesis in Research may be considered as well. (No student self-nomination.)

**Playwriting:** \$1000 for achievement in playwriting, for a new play on contemporary experience. Students may self-nominate, and must have taken a class in playwriting at Barnard or Columbia to be eligible.

### b. Joseph Milton Fee, Jr. Award in Playwriting.

The Prize will be in the amount of \$500, and may be awarded to two undergraduate students (\$500 each) for an original play written in English "on any aspect of the American experience." Applicants are expected to have formally studied playwriting at Barnard or Columbia. Students may self-nominate.

## Faculty:

**Chair:** W.B. Worthen (Alice Brady Pels Professor in the Arts)

**Associate Professor:** Hana Worthen (primary appointment Associate Professor, Comparative Literature)

**Assistant Professor:** Yizhou Huang

**Professor of Professional Practice, Theatre, School of the Arts:** Steven Chaikelson

**Professors of Professional Practice:** Sandra Goldmark (also Climate School, Columbia University); Alice Reagan (Director of Undergraduate Studies)

**Senior Lecturers:** Shayoni Mitra

**Lecturers:** Gisela Cardenas

**Adjunct Lecturers:** Mana Allen, Daniel Baker, Andy Bragen, Autum Casey, Kyle deCamp, Crystal Finn, Sharon Fogarty, Tina Mitchell, Shannon Sindelar, David Skeist, Elena Zucker

## Affiliated Faculty:

Associate Professors: Maja Horn (Spanish and Latin American Cultures, Barnard)

Senior Lecturers: Pam Cobrin (English, Barnard), Patricia Denison (English, Barnard)

## Other officers of the University offering courses listed below:

Professors: Julie Stone Peters (English, Columbia), Austin Quigley (English, Columbia)

Assistant Professors: Rebecca Kastleman (English, Columbia)

**Department Administrator:** Kate Purdum

**Technical Director:** Greg Winkler

**Director of Production:** Michael Banta

**Costume Shop Manager:** Kara Feely

**Senior Faculty Department Assistant:** Valerie Coates

## REQUIREMENTS FOR THE MAJOR

Download the Theatre major self-audit form

A minimum of 44 credits is required to fulfill the requirements for the major. Students intending to major in Theatre should consult with the Department Chair in their sophomore year or earlier to plan a program. Twelve courses and one senior thesis (in Performance or in Research) are required as follows:



## REQUIREMENTS FOR THE MAJOR FOUR COURSES

**Two lecture "studies" courses (must be taken at Barnard):**

THTR UN3150	CRITICAL HISTORIES OF DRAMA, THEATRE, AND PERFORMANCE I
THTR UN3151	CRITICAL HISTORIES OF DRAMA, THEATRE, AND PERFORMANCE 2

**Two theatre studio "praxis" courses, each in a different discipline:**

THTR UN3004	ACTING I
THTR UN3200	DIRECTING I
THTR UN3203	COLLABORATION:DIRCTNG/ DESIGN
THTR UN3300	PLAYWRITING WORKSHOP
THTR UN3301	PLAYWRITING LAB
THTR UN3401	SOUND DESIGN
THTR UN3412	TECHNICAL PRODUCTION
THTR UN3413	STAGE MANAGEMENT
THTR UN3402	COSTUME DESIGN
THTR UN3403	LIGHTING DESIGN
THTR UN3404	SCENE DESIGN
THTR UN3405	PROBLEMS IN DESIGN
THTR UN3210	DRAMATURGY
THTR UN3201	DIRECTING II
THTR UN3202	ADVANCED DIRECTING

## EIGHT ADDITIONAL COURSES: LECTURE/SEMINAR AND PRAXIS

Maximum 5 3-4 point courses in drama studies, theatre studies, performance studies (lecture/seminar) **OR**

Maximum 5 3-4 point courses in praxis(studio) fields: 5 studies/3 praxis; 4 studies/ 4 praxis; 3 studies/5 praxis

a. praxis courses may be taken a single discipline or combination of disciplines: acting, design, directing, dramaturgy, playwriting, solo performance

b. one praxis course may be taken in another department, if relevant to thesis, with prior approval of the Chair (i.e., figure drawing)

c. drama studies, theatre studies, and performance studies lectures/seminars are taken in the Theatre THTR UN 3100 series; 1-2 ENTA, ENTH, CPLS, and/or Shakespeare (literature) courses are typically approved for "studies" requirement; other courses require prior approval of Chair

d. at least 3 courses in the field of the senior thesis (3 acting classes for acting; solo performance and 2 acting for solo performance thesis; 3 directing classes; 3 design classes; 3 playwriting classes; 1 stage management and 2 design/technical theatre for stage and production management; dramaturgy class and either 2 research classes or 1 research and 1 playwriting for dramaturgy; 3 research classes for research thesis.

*Acting, Design, Directing, Dramaturgy, Playwriting, Solo Performance, Stage and Production Management, Research*

THTR UN3997 SENIOR THESIS IN PERFORMANCE (acting, design, directing, dramaturgy, playwriting, solo performance) OR THTR UN3998 SENIOR THESIS IN RESEARCH. **Students apply for thesis field in January of the junior year;** at least 3 courses in the field of the thesis, in addition to the thesis course, required at the time of graduation.

Two 1-2 credit courses (THTR UN2422 PRACTICUM SCENIC PAINT, THTR UN2423 PRACTICUM LIGHTS # SOUND, THTR UN2424 PRACTICUM WARDROBE # RUN CREW, THTR UN2426 PRACTICUM DESIGN THESIS FESTIVAL, THTR UN2427 PRACTICUM DESIGN # PRODUCTION ASSISTANT), one pre-production and one backstage; OR One 3-credit assignment as stage manager (THTR UN2425 PRACTICUM STAGE MANAGEMENT).

## GRADUATE COURSES

Only under special circumstances, and with the permission of the instructor, can undergraduates take graduate classes.

## REQUIREMENTS FOR THE MINOR

The Minor in Theatre provides the opportunity to engage in the range of opportunities offered by the Theatre department:

students who minor in Theatre take a mix of lecture and seminar courses in drama, theatre, and performance studies, as well as courses in a selected area or selected areas of performance practice (acting, design, directing, dramaturgy, stage and production management, playwriting). See here for the [Minor Audit Form](#).

Please note:

**Only courses that would fulfill the major requirements can be used to fulfill minor requirements.**

**For Barnard students: the minor can be "declared" only in the semester that all requirements for the minor will be completed, typically in the first or second semester of the senior year.**

**For students in Columbia College and General Studies: please contact your advising center to declare the minor.**



The minor in Theatre consists of six (6) courses; only courses that fulfill major requirements may be taken to fulfill minor requirements. Students minoring in Theatre may take one (1) relevant course from another department as part of the “elective” series, as approved by the minor advisor or the department chair.

Six courses, to include three 3- or 4-credit lecture/seminar courses, and three 3-credit studio courses, as follows:

- One (1) Theatre lecture course (THTR UN3149 PERFORMANCE IN/OF SOUTH # SOUTHEAST ASIA, THTR UN3150 CRITICAL HISTORIES OF DRAMA, THEATRE, AND PERFORMANCE I, THTR UN3151 CRITICAL HISTORIES OF DRAMA, THEATRE, AND PERFORMANCE 2, THTR UN3154 THEATRE TRAD GLOBAL CONTEXT )
- One (1) additional lecture course from the list above or seminar course offered at the 3000 level in the Theatre department
- One (1) course offered in the Theatre department in any of the following fields: acting, design, directing, dramaturgy, playwriting.
- Three (3) additional courses as follows:
- One (1) 3000 level lecture/seminar course in drama, theatre, and performance studies offered in the Theatre department
- Two (2) studio courses, chosen from acting, design, directing, dramaturgy, or playwriting.

One (1) relevant course from another department may be included with prior approval of the department chair, including ENTA courses offered through Columbia English, or relevant courses offered in other departments.

No more than three (3) courses may be in a single format: three (3) lecture or seminar and three (3) studio courses. All three studio courses may be in a single discipline (for example, three courses in acting; two design courses and one approved course in figure drawing; three playwriting courses, including one approved course taken in Barnard English).

## COLUMBIA CORE REQUIREMENTS IN THE THEATRE MAJOR

The Global Core requirement in the Core Curriculum (for CC/GS students) can be fulfilled by the Theatre course THTR UN3154: Theatre Traditions in a Global Context.

# EARTH AND ENVIRONMENTAL SCIENCES

## THE DEPARTMENT OF EARTH AND ENVIRONMENTAL SCIENCES:

Department website: <https://eesc.columbia.edu/>

Morningside Office Location: 556-7 Schermerhorn Hall Extension

Office Contact: 212-854-3614

Lamont-Doherty Earth Observatory Office Location: 106 Geoscience

Office Contact: 845-365-8550

### Co-Directors of Undergraduate Studies:

Terry Plank and Joerg Schaefer  
[dees-dus@columbia.edu](mailto:dees-dus@columbia.edu)

### Director of Academic Administration and Finance:

Kaleigh Matthews,  
[kaleighm@ldeo.columbia.edu](mailto:kaleighm@ldeo.columbia.edu)

**Undergraduate Program Manager:** Julianna Russo,  
[jr4432@columbia.edu](mailto:jr4432@columbia.edu)

## THE STUDY OF EARTH AND ENVIRONMENTAL SCIENCES:

The undergraduate programs in the Department of Earth and Environmental Sciences provide an understanding of the natural functioning of our planet and considers the consequences of human interactions with it. Our program for majors aims to convey an understanding of how the complex Earth system works at a level that encourages students to think creatively about the Earth system processes and how to address multidisciplinary environmental problems. The breadth of material covered provides an excellent background for those planning to enter the professions of law, business, diplomacy, public policy, teaching, journalism, etc. At the same time, the program provides sufficient depth so that our graduates are prepared for graduate school in one of the Earth sciences. The program can be adjusted to accommodate students with particular career goals in mind.

All majors, minors, and concentrators, when planning their programs of study, should regularly consult the directors of

undergraduate studies and make themselves aware of the requirements for their particular program.

## STUDENT ADVISING

Earth Science and Environmental Science Majors, Minors, and Concentrators:

DUS: Terry Plank, [dees-dus@columbia.edu](mailto:dees-dus@columbia.edu)

Climate System Science and Climate and Sustainability Majors and Minors:

DUS: Joerg Schaefer, [dees-dus@columbia.edu](mailto:dees-dus@columbia.edu)

All Programs:

Undergraduate Program Manager: Julianna Russo, [jr4432@columbia.edu](mailto:jr4432@columbia.edu)

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

To check if AP credits will fulfill program requirements, specifically the Supporting Courses requirement, please contact the DUS.

AP Environmental Science does not fulfill any DEES major, minor, or concentration requirements.

### Barnard College Courses

Courses taken at Barnard College can count towards the Breadth requirement if they are science-based and 2000 level or above. Barnard courses with STEM prerequisites can count towards the Depth requirement. To check if Barnard College courses will fulfill program requirements, please contact the DUS with the course number, name, and syllabus.

### Transfer Courses

Fulfillment of program requirements by earth, environmental, and/or climate-related transfer courses will be determined by the DUS. Please send your transcript and the course name and syllabi to [dees-dus@columbia.edu](mailto:dees-dus@columbia.edu) for evaluation.

For DEES majors, at least 50% of upper-level courses must be taken at Columbia:

**Climate System Science Majors:** Students must take at least 3 Climate System Core courses, and at least 1 Climate

Solutions, Justice, Policy, Communications course at Columbia, from their designated lists seen in the bulletin. **Earth Science and Environmental Science Majors:** At least 3 Depth/Breadth courses must be taught by a DEES Instructor.

**Trinity College Dublin Dual Degree:** Please send your Trinity College transcripts to [dees-dus@columbia.edu](mailto:dees-dus@columbia.edu) to check which courses will fulfill the Earth Science Major requirements. At least 3 Depth courses and 1 Breadth course, as well as the capstone sequence, must be taken at Columbia.

### Study Abroad Courses

Courses taken abroad must be approved by the DUS ahead of time in order to count towards the major. If you are interested in studying abroad, please consult with the DUS to plan your major requirements accordingly. Typically, students can count supporting courses taken abroad, and any earth, environmental, and/or climate-related courses must be evaluated by the DUS. To check if Study Abroad courses will fulfill program requirements, please contact the DUS with the course syllabus.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Senior Thesis Coursework and Requirements

All students majoring in DEES are required to complete the capstone requirement during their senior year. Depending on your major, you may have more than one option to fulfill this requirement - EESC UN3901 Senior Seminar, EESC U3904 Independent Research in Climate System Science, or an approved Field Course. Please refer to the Requirements page and the DEES website to learn more about the capstone options for each major. Only students who complete the senior thesis may be considered for departmental honors.

### Undergraduate Research Outside of Courses

The department's close affiliations with the Lamont-Doherty Earth Observatory, the American Museum of Natural History (AMNH), NASA's Goddard Institute for Space Studies (GISS), the Earth Institute at Columbia (EI), and several departments within the Fu Foundation School of Engineering and Applied Sciences afford opportunities for student participation in a wide variety of current research programs. Summer employment, research, and additional

educational opportunities are available at Lamont and GISS. The department encourages majors to become involved in a research project by their junior year.

## DEPARTMENT HONORS AND PRIZES

The Department of Earth and Environmental Science awards departmental honors to the major or majors in DEES judged to have the best overall academic record. The award is accorded to no more than 10% of the graduating class, or one student in the case of a class smaller than 10. A grade point average of at least 3.6 in the major and a senior thesis or equivalent research of high quality are required. All students meeting these requirements are automatically considered for departmental honors.

## PROFESSORS

Ryan Abernathey  
 Nicholas Christie-Blick  
 Joel E. Cohen  
 Hugh Ducklow  
 Sonya Dyhrman  
 Peter Eisenberger  
 Göran Ekström  
 Pierre Gentine  
 Steven L. Goldstein  
 Arnold L. Gordon  
 Kevin L. Griffin (Chair)  
 Alex Halliday  
 Sidney R. Hemming (Director of Graduate Studies)  
 Bärbel Hönlisch  
 Peter B. Kelemen  
 Folarin Kolawole  
 Galen McKinley  
 Jerry F. McManus (Associate Chair)  
 Faye McNeill  
 William H. Menke  
 John C. Mutter  
 Meredith Nettles  
 Paul E. Olsen  
 Terry A. Plank (Director of Undergraduate Studies)  
 Lorenzo M. Polvani  
 G. Michael Purdy  
 Maureen Raymo  
 Christopher H. Scholz  
 Adam H. Sobel  
 Marc Spiegelman  
 Martin Stute (Barnard)  
 Maya Tolstoy  
 Renata Wentzcovich

## ASSOCIATE PROFESSORS

Jacqueline Austermann  
 Roisin Commancé  
 Jonathan Kingslake

## ASSISTANT PROFESSORS

Folarin Kolawole  
 Yves Moussallam

## ADJUNCT PROFESSORS

Robert F. Anderson  
 W. Roger Buck IV  
 Denton Ebel  
 John J. Flynn  
 Arthur Lerner-Lam  
 Alberto Malinverno  
 Ronald L. Miller  
 Dorothy M. Peteet  
 Andrew Robertson  
 Joerg M. Schaefer  
 Christopher Small  
 Andreas Thurnherr  
 Felix Waldhauser  
 Spahr C. Webb  
 Gisela Winckler

## ADJUNCT ASSOCIATE PROFESSORS

Anne Bécél

## EMERITUS

Mark Cane  
 Hugh Ducklow  
 Arnold Gordon  
 James Hays  
 Paul Richards  
 Lynn Sykes  
 David Walker

## GUIDELINES FOR ALL EARTH SCIENCE, ENVIRONMENTAL SCIENCE, CLIMATE SYSTEM SCIENCE, AND CLIMATE AND SUSTAINABILITY MAJORS, MINORS, CONCENTRATORS, AND SPECIAL CONCENTRATORS

### Advising

All majors, minors, and concentrators, when planning their programs of study, should regularly consult the directors of undergraduate studies, who can be contacted through the department office on the fifth floor of Schermerhorn. The requirements are different for each major, minor, and concentration and must be met in conjunction with the

general requirements for the bachelor's degree. Declaration of the major must be approved by the department and filed in the departmental office.

## Substitutions and Exceptions

1. Higher-level courses may be used to satisfy supporting mathematics and science requirements for students with Advanced Placement preparation with the permission of the major adviser.
2. In addition to the courses listed for the depth, and breadth and related courses requirements, several graduate-level courses offered in the department as well as several advanced courses offered at Barnard may be substituted with the permission of the major adviser.
3. 1000-level courses in the Earth and Environmental Sciences Department **cannot** be used toward meeting the requirements of the Earth Science major and Environmental Science major, concentrations, or special concentrations. **Please note:** 1000-level courses can be used towards meeting the requirements of the Climate System Science major and Climate and Sustainability major, and some Earth and Environmental Science minors.
4. Double counting is not permitted for minors.
5. EESC UN2330 does not fulfill the Breadth requirement.
6. EESC GU4600 does not fulfill the Depth requirement, this course would only fulfill the Breadth requirement.

## Grading

A grade of C- or better must be obtained for a course to count toward the majors, concentrations, or special concentrations. The grade of P is not acceptable, but a course taken Pass/D/Fail may be counted if and only if the P is uncovered by the Registrar's deadline.

## MAJOR IN EARTH SCIENCE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Minors, Concentrators, and Special Concentrators](#) above.

The major in Earth Science requires a minimum of 45.5 points, distributed as follows:

### Foundation Courses

EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
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Select one of the following:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
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EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
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Students who wish to take both EESC UN2100 EARTH'S ENVIRO SYST: CLIM SYST and EESC UN2300 EARTH'S ENVIRO SYST: LIFE SYST can include one of these under breadth and related fields below.

## Supporting Mathematics and Science Courses

One semester of Calculus at the level of Calculus I or higher (3 credits)

MATH UN1101	CALCULUS I
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Select one of the following three-course sequences:

CHEM UN1403 & CHEM UN1404 & PHYS UN1201	GENERAL CHEMISTRY I-LECTURES and GENERAL CHEMISTRY II-LECTURES and GENERAL PHYSICS I
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CHEM UN1403 & PHYS UN1201 & PHYS UN1202	GENERAL CHEMISTRY I-LECTURES and GENERAL PHYSICS I and GENERAL PHYSICS II
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## Capstone Experience

Select one of the following:

EESC BC3800 & EESC UN3901	ENVR SCIENCE SENIOR SEMINAR and SENIOR SEMINAR
---------------------------	--

EESC BC3801 & EESC UN3901	ENVR SCIENCE SENIOR SEM II and SENIOR SEMINAR
---------------------------	---

A six to eight week summer geology field course

## Breadth and Related Fields Requirement

A minimum of 6 points (two courses) chosen with the major adviser are required.

Breadth and related field courses are science courses relevant for an Earth science major that do not require an Earth science background. Several such courses are offered at the 2000-, 3000- and 4000-level in the department and at Barnard. Examples include:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
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EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
-------------	--------------------------------

EESC UN3010	FIELD GEOLOGY
-------------	---------------

EESC BC3017	ENVIRONMENTAL DATA ANALYSIS
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EESC GU4050	GLOBAL ASSMT-REMOTE SENSING
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EESC GU4600	EARTH RESOURCES # SUSTAIN DEV
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## EESC GU4917 THE EARTH/HUMAN INTERACTIONS

EAAE E2002

Also included among breadth and related fields courses are science, mathematics, statistics, and engineering courses offered by other departments that count toward fulfilling degree requirements in those departments.

Please note that EESC UN2330 SCIENCE FOR SUSTAINABLE DEVPT does not fulfill the Breadth requirement.

## Depth Requirement

A minimum of 12 points (four courses) chosen with the major adviser to provide depth in the field of Earth science.

These courses build on the foundation and supporting courses listed above and provide a coherent focus in some area of Earth science. Depth courses are 3000- and 4000- level courses that carry EESC or supporting science pre-requisites. Students must include at least one of the following in their course of study:

EESC UN3101	Geochemistry for a Habitable Planet
or EESC UN3201	SOLID EARTH DYNAMICS

Please note that EESC GU4600 EARTH RESOURCES # SUSTAIN DEV does not fulfill the Depth requirement, this course would only fulfill the Breadth requirement.

## Areas of Focus

The following areas of focus include one of the courses listed above and three or more additional courses. Students are not required to specialize in a focus area, but examples are given below for those who choose to do so.

### Geological Science

EESC GU4090	INTRO TO GEOCHRONOLGY
EESC GU4113	Mineralogy and Mineral Resources
EESC GU4223	SEDIMENTARY GEOLOGY
EESC GU4230	CRUSTAL DEFORMATION
EESC GU4701	Introduction to Igneous Petrology
EESC GU4887	ISOTOPE GEOLOGY I
EESC GU4947	PLATE TECTONICS AND CLIMATE

It is strongly recommended that students focusing in geological science take the summer geology field course as their capstone experience.

### Geochemistry

EESC UN3015	The Earth's Carbon Cycle
EESC BC3016	ENVIRONMENTAL MEASUREMENTS
EESC BC3200	Ecotoxicology

## EESC GU4090 INTRO TO GEOCHRONOLGY

EESC GU4113 Mineralogy and Mineral Resources

EESC GU4701 Introduction to Igneous Petrology

EESC GU4885 CHEMISTRY OF CONTINENTAL WATERS

EESC GU4887 ISOTOPE GEOLOGY I

EESC GU4926 INTRO TO CHEMICAL OCEANOGRAPHY

It is recommended that students focusing in geochemistry take CHEM UN1403-CHEM UN1404 General Chemistry I and II, and PHYS UN1201 General Physics I as their supporting science sequence.

### Atmosphere and Ocean Science

EESC GU4008 Introduction to Atmospheric Science

EESC GU4920 PALEOCEANOGRAPHY

EESC GU4924 INTRO TO ATMOSPHERIC CHEMISTRY

EESC GU4925 INTRO TO PHYSICAL OCEANOGRAPHY

EESC GU4926 INTRO TO CHEMICAL OCEANOGRAPHY

It is recommended that students focusing on atmosphere and ocean science also take a course in fluid dynamics and a course in differential equations.

### Solid Earth Geophysics

EESC GU4230 CRUSTAL DEFORMATION

EESC GU4300 THE EARTH'S DEEP INTERIOR

EESC GU4937 CENOZOIC PALEOCEANOGRAPHY

EESC GU4947 PLATE TECTONICS AND CLIMATE

EESC GU4949 Introduction to Seismology

It is recommended that students focusing in solid Earth geophysics take PHYS UN1201-PHYS UN1202 General Physics I and II, and CHEM UN1403 General Chemistry I as their supporting science sequence and also take MATH UN1201 Calculus II.

### Climate

EESC UN3015 The Earth's Carbon Cycle

EESC BC3025 HYDROLOGY

EESC GU4008 Introduction to Atmospheric Science

EESC GU4330 INTRO-TERRESTRIAL PALEOCLIMATE

EESC GU4835 Wetlands and Climate Change

EESC GU4920 PALEOCEANOGRAPHY

EESC GU4924 INTRO TO ATMOSPHERIC CHEMISTRY

EESC GU4925 INTRO TO PHYSICAL OCEANOGRAPHY

EESC GU4937 CENOZOIC PALEOCEANOGRAPHY



**Paleontology**

EESC GU4223	SEDIMENTARY GEOLOGY
EESC GU4550	Plant Ecophysiology
EESC GU4920	PALEOCEANOGRAPHY
EESC GU4924	INTRO TO ATMOSPHERIC CHEMISTRY
EESC GU4937	CENOZOIC PALEOCEANOGRAPHY

It is recommended that students focusing in paleontology take EESC UN2300 Earth's Environmental Systems: The Life System, as one of their foundation courses.

## MAJOR IN ENVIRONMENTAL SCIENCE

Please read Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Minors, Concentrators, and Special Concentrators above.

The major in Environmental Science requires a minimum of 47 points, distributed as follows:

**Foundation Courses**

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

**Supporting Mathematics and Science Courses**

One semester of Calculus at the level of Calculus I or higher (3 credits)

MATH UN1101	CALCULUS I
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Select one of the following three-course sequences:

CHEM UN1403 & CHEM UN1404 & PHYS UN1201	GENERAL CHEMISTRY I-LECTURES and GENERAL CHEMISTRY II-LECTURES and GENERAL PHYSICS I
CHEM UN1403 & PHYS UN1201 & PHYS UN1202	GENERAL CHEMISTRY I-LECTURES and GENERAL PHYSICS I and GENERAL PHYSICS II
CHEM UN1403 & EEEB UN2001 & PHYS UN1201	GENERAL CHEMISTRY I-LECTURES and ENVIRONMENTAL BIOLOGY I and GENERAL PHYSICS I

**Capstone Experience**

EESC BC3800	ENVIR SCIENCE SENIOR SEMINAR
or EESC BC3801	ENVIR SCIENCE SENIOR SEM II
EESC UN3901	SENIOR SEMINAR

**Breadth and Related Fields Requirement**

A minimum of 6 points (two courses) chosen with the major adviser are required.

Breadth and related field courses are science courses relevant for an environmental science major that do not require an environmental science background. Several such courses are offered at the 2000-, 3000- and 4000-level in the department and at Barnard. Examples include:

EESC BC3017	ENVIRONMENTAL DATA ANALYSIS
EESC GU4050	GLOBAL ASSMT-REMOTE SENSING
EESC GU4600	EARTH RESOURCES # SUSTAIN DEV
EESC GU4917	THE EARTH/HUMAN INTERACTIONS
EESC UN3010	FIELD GEOLOGY

Also included among breadth and related fields courses are science, mathematics, statistics, and engineering courses offered by other departments that count toward fulfilling degree requirements in those departments.

Please note that EESC UN2330 SCIENCE FOR SUSTAINABLE DEVPT does not fulfill the Breadth requirement.

**Depth Requirement**

A minimum of 9 points (three courses) chosen with the major adviser to provide depth in the field of environmental science.

These courses build on the foundation and supporting courses listed above and provide a coherent focus in some area of environmental science. Depth courses are 3000- and 4000- level courses that carry EESC or supporting science pre-requisites. Students must include at least one of the following in their course of study:

EESC UN3101	Geochemistry for a Habitable Planet
or EESC UN3201	SOLID EARTH DYNAMICS

Please note that EESC GU4600 EARTH RESOURCES # SUSTAIN DEV does not fulfill the Depth Requirement, this course would only fulfill the Breadth requirement.

## Areas of focus

The following areas of focus include one of the courses listed above and two or more additional courses. Students are not required to specialize in a focus area, but examples are given below for those who choose to do so.

### Environmental Geology

EESC GU4076	Geologic Mapping
EESC GU4480	Paleobiology and Earth System History

EAEE E3221

It is recommended that students focusing in environmental geology also take EESC W4050 Remote Sensing.

### Environmental Geochemistry

EESC UN3015	The Earth's Carbon Cycle
EESC GU4885	CHEMISTRY OF CONTINENTL WATERS
EESC GU4887	ISOTOPE GEOLOGY I
EESC GU4924	INTRO TO ATMOSPHERIC CHEMISTRY
EESC GU4888	Stable Isotope Geochemistry
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY

### Hydrology

EESC GU4076	Geologic Mapping
EESC GU4835	Wetlands and Climate Change
EESC GU4885	CHEMISTRY OF CONTINENTL WATERS
EESC BC3025	HYDROLOGY

EAEE E3221

### Climate Change

EESC UN3015	The Earth's Carbon Cycle
EESC GU4008	Introduction to Atmospheric Science
EESC GU4330	INTRO-TERRESTRIAL PALEOCLIMATE
EESC GU4480	Paleobiology and Earth System History
EESC GU4835	Wetlands and Climate Change
EESC GU4920	PALEOCEANOGRAPHY

It is recommended that students focusing in environmental geology also take EESC GU4050 Remote Sensing.

### Energy and Resources

EESC GU4076	Geologic Mapping
EESC GU4701	Introduction to Igneous Petrology

EAEE E2002

## MAJOR IN CLIMATE SYSTEM SCIENCE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and](#)

[Sustainability Majors, Minors, Concentrators, and Special Concentrators](#) above.

The major in Climate System Science requires a minimum of 43.5 points, distributed as follows:

## Foundational Courses

7.5 points minimum (2 courses):

### Required:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
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### And any one of:

EESC UN1009	GLOBAL WARMING FOR GLOBAL LEADERS
EESC UN1030	OCEANOGRAPHY
EESC UN1201	Environmental Risks and Disasters
EESC UN1600	EARTH RESOURCES # SUSTAIN DEV
or EESC GU4600	EARTH RESOURCES # SUSTAIN DEV
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
EESC UN2330	SCIENCE FOR SUSTAINABLE DEVPT

## Supporting Courses

12 points minimum (4 courses):

**One semester of Calculus at the level of Calculus I or higher:**

MATH UN1101	CALCULUS I
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### And any three courses:

PHYS UN1201	GENERAL PHYSICS I
PHYS UN1202	GENERAL PHYSICS II
CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
EEEB UN2001	ENVIRONMENTAL BIOLOGY I
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

## Climate System Core

15 points minimum (five courses):

### Required: at least one Paleoclimate Course

EESC GU4235	SEA LEVEL CHANGE
EESC GU4330	INTRO-TERRESTRIAL PALEOCLIMATE
EESC GU4480	Paleobiology and Earth System History

EESC GU4920	PALEOCEANOGRAPHY
EESC GU4937	CENOZOIC PALEOCEANOGRAPHY
<b>Required: at least one Modern Climate Course</b>	
EESC UN3031	CHEMISTRY OF CLIMATE
EESC UN3109	CLIMATE PHYSICS
EESC GU4008	Introduction to Atmospheric Science
EESC GU4020	HUMANS # THE CARBON CYCLE
EESC GU4040	CLIM THERMODYN/ENERGY TRANSFER
EESC GU4835	Wetlands and Climate Change
EESC GU4923	Biological Oceanography
EESC GU4925	INTRO TO PHYSICAL OCEANOGRAPHY
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY
EESC GU4930	EARTH'S OCEANS # ATMOSPHERE
<b>Could include: Other Climate System Course</b>	
EESC BC3109	Hydrology
EESC UN3101	Geochemistry for a Habitable Planet
EESC UN3201	SOLID EARTH DYNAMICS
EESC GU4220	GLACIOLOGY
EESC GU4835	Wetlands and Climate Change
EESC GU4885	CHEMISTRY OF CONTINENTL WATERS
EESC GU4923	Biological Oceanography
EESC GU4924	INTRO TO ATMOSPHERIC CHEMISTRY
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY
<b>Could include one: Supporting EESC Course</b>	
EESC UN3400	COMPUTATIONAL EARTH SCIENCE
EESC GU4210	GEOPHYSICAL FLUID DYNAMICS
EESC GU4223	SEDIMENTARY GEOLOGY
EESC GU4230	CRUSTAL DEFORMATION
EESC GU4887	ISOTOPE GEOLOGY I
EESC GU4888	Stable Isotope Geochemistry

## Climate Solutions, Justice, Policy and Communication

6 points minimum (any two courses below):

### Solutions Courses

EESC BC3045	RESPONDING TO CLIMATE CHANGE (Barnard College)
ARCH UN3120	CITY, LANDSCAPE, # ECOLOGY
EAEE E2002	

EAEE E2100	A BETTER PLANET BY DESIGN
EAEE E4001	INDUST ECOLOGY-EARTH RESOURCES
EAEE E4002	ALTERNATIVE ENERGY RESOURCES
EAEE E4006	Field methods for environmental engineering
EAEE E4300	INTRO TO CARBON MANAGEMENT
EAEE E4302	CARBON CAPTURE
EAEE E4301	CARBON STORAGE
EAEE E4305	CO2 UTILIZATION AND CONVERSION
CIEE E3250	
MECE E4211	ENERGY SOURCES AND CONVERSION
SDEV GU4250	CLIMATE CHANGE: RESILIENCE # ADAPTATION
<b>Climate Justice, Policy, Economics</b>	
ANTH BC3932	CLIMATE CH./GLOB. MIGRATION/ HUMAN RIGHTS (Barnard College)
ANTH V3861	
ARCH UN3400	ENVIRONMENTAL VISUALIZATIONS OF NYC
ECON BC3039	ENVIRONMENTAL & NAT. RES. ECONOMICS (Barnard College)
ECON BC3040	ENVIRONMENTAL LAW (Barnard College)
ECON UN2257	THE GLOBAL ECONOMY
ECON GU4750	GLOBALIZATION # ITS RISKS
POLS UN3648	GOVERNING THE GLOBAL ECONOMY
POLS GU4814	GLOBAL ENERGY: SECURITY/GEOPOL
POLS GU4863	INTERNATIONAL POLITICAL ECONOMY OF DEVELOPING COUNTRIES
SDEV UN3355	CLIMATE CHANGE AND LAW
SDEV UN3360	DISASTERS AND DEVELOPMENT
SDEV UN2050	ENVIRONMENTAL POLICY AND GOVERNANCE

## Climate System Capstone

3 points minimum (one course):

EESC UN3904	INDEPENDENT RESEARCH IN CLIMATE SYSTEM SCIENCE
EESC UN3901	SENIOR SEMINAR (taken twice, in fall and spring)
or EESC BC3800 followed by EESC UN3901	

Approved Field Course focused on the Climate System  
~6 weeks, must be proposed and then approved by DUS

## MAJOR IN CLIMATE AND SUSTAINABILITY

Please read Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Minors, Concentrators, and Special Concentrators above.

The major in Climate and Sustainability is a joint major between the Undergraduate Program in Sustainable Development and DEES, and requires a minimum of 46.5 points, distributed as follows:

### Climate and Sustainability Foundations

Two courses:

SDEV UN2300	CHALLENGES OF SUSTAINABLE DEV
EESC UN2330	SCIENCE FOR SUSTAINABLE DEVPT

### Basic Disciplinary Foundations

Five courses:

#### A. Natural Science Courses (2):

**Required:**

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
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**One of the following:**

EESC UN1201	Environmental Risks and Disasters
EESC UN1600	EARTH RESOURCES # SUSTAIN DEV
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

#### B. Social Science Courses (2):

**Required:**

SDEV UN2100	Introduction to Climate Justice
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**One of the following:**

ECON UN1105	PRINCIPLES OF ECONOMICS
POLS UN1601	INTERNATIONAL POLITICS
SDEV UN2000	INTRO TO ENVIRONMENTAL LAW
SDEV UN2050	ENVIRONMENTAL POLICY AND GOVERNANCE
ANTH BC2427	ANTHROPOLOGY OF CLIMATE CHANGE

SDEV UN3400	HUMAN POPULATIONS # SDEV
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### C. Quantitative Foundations Course (1)

**One of the following:**

STAT UN1201	CALC-BASED INTRO TO STATISTICS
MATH UN2010	LINEAR ALGEBRA
EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
EESC BC3017	ENVIRONMENTAL DATA ANALYSIS

Note: Taking Introduction to Statistics and Calculus separately will not fulfill the quantitative requirement.

### Climate and Sustainability: Complexities and Analyses

Four courses:

**Two courses from the following:**

TBD####	Climate Change: Mitigation
SDEV GU4250	CLIMATE CHANGE: RESILIENCE # ADAPTATION
ANTH BC3932	CLIM CHNG/GLOBAL MIGR/HUM RGT
SDEV UN3355	CLIMATE CHANGE AND LAW
SDEV UN3366	ENERGY LAW
EESC GU4235	SEA LEVEL CHANGE
EAEE E4304	CLOSING THE CARBON CYCLE

**One of the following Natural Science courses:**

EESC GU4220	GLACIOLOGY
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY
EESC GU4923	Biological Oceanography
EESC GU4925	INTRO TO PHYSICAL OCEANOGRAPHY
EESC GU4835	Wetlands and Climate Change
EESC GU4330	INTRO-TERRESTRIAL PALEOCLIMATE
EESC GU4920	PALEOCEANOGRAPHY
EESC GU4937	CENOZOIC PALEOCEANOGRAPHY
EESC GU4235	SEA LEVEL CHANGE
EAEE E4304	CLOSING THE CARBON CYCLE

**One of the following Social Science courses:**

ANTH 3861	Anthropology of the Anthropocene
POLS 4811	Global Energy: Security/Geopolitics
SDEV 4240	Science Communications
ANTH BC3932	CLIM CHNG/GLOBAL MIGR/HUM RGT

SDEV UN3355	CLIMATE CHANGE AND LAW
SDEV UN3366	ENERGY LAW
SDEV GU4050	US WATER # ENERGY POLICY
ECON BC3039	Environmental and Natural Resource Economics

## Electives

Select two courses from the following areas. If you select Area 1, you must complete two thesis courses, and these will fulfill the elective requirement:

### Area 1:

EESC UN3901	SENIOR SEMINAR
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### Area 2:

Additional courses listed under the *Climate and Sustainability: Complexities and Analysis* requirement

### Area 3:

Additional quantitative or qualitative methods or skills courses:

STAT UN2103	APPLIED LINEAR REG ANALYSIS
STAT UN3105	APPLIED STATISTICAL METHODS
STAT UN3106	APPLIED MACHINE LEARNING
STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4205	LINEAR REGRESSION MODELS
EAEE E4257	ENVIR DATA ANALYSIS # MODELING
EESC BC3050	BIG DATA WITH PYTHON
SDEV UN3390	GIS FOR SUSTAINABLE DEVELOPMNT
SDEV UN3450	SPATIAL ANALYSIS FOR SDEV
SDEV GU4101	QUAL RESEARCH METHODS SDEV

## Practicum

One course:

### One of the following:

SDEV UN3998	SUPERVISED INDIVIDUAL RESEARCH
SDEV GU4500	SUSTAINABILITY AND THE MEANING OF PLACE ON CUTTYHUNK ISLAND

SDEV GU4550	The New York City Watershed: From Community Displacement to Collaboration and Climate Adaptation
SUMA PS4734	Earth Institute Practicum

## Capstone Workshop

One course:

### One of the following:

SDEV UN3280	WORKSHOP IN SUSTAINABLE DEVPT
SDEV UN3550	BANGLADSH:LIFE-TECT ACTV DELTA
SDEV GU4400	Sustainable Development in Rwanda

## MINOR IN EARTH AND ENVIRONMENTAL SCIENCE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Minors, Concentrators, and Special Concentrators](#) above.

The minor in Earth and Environmental Science requires a minimum of 18 points, distributed as follows:

### Foundational Courses

9 points (two courses):

Select two of the following:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

### Depth and Breadth Courses

9 points minimum (three courses):

Any three additional 1000, 2000, 3000, or 4000-level EESC courses.

## MINOR IN CLIMATE SYSTEM SCIENCE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Minors, Concentrators, and Special Concentrators](#) above.



The minor in Climate System Science requires a minimum of 16.5 points, distributed as follows:

## Foundational Courses

7.5 points (two courses):

Both required:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN1009	GLOBAL WARMING FOR GLOBAL LEADERS

## Climate System Module

6 points minimum (any two courses below):

Two courses from the lists below:

EESC UN1030	OCEANOGRAPHY
EESC UN1201	Environmental Risks and Disasters
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
EESC UN2330	SCIENCE FOR SUSTAINABLE DEVPT

### Paleoclimate Courses

EESC GU4235	SEA LEVEL CHANGE
EESC GU4330	INTRO-TERRESTRIAL PALEOCLIMATE
EESC GU4480	Paleobiology and Earth System History
EESC GU4920	PALEOCEANOGRAPHY
EESC GU4937	CENOZOIC PALEOCEANOGRAPHY

### Modern Climate Courses

EESC UN3031	CHEMISTRY OF CLIMATE
EESC UN3109	CLIMATE PHYSICS
EESC GU4008	Introduction to Atmospheric Science
EESC GU4020	HUMANS # THE CARBON CYCLE
EESC GU4040	CLIM THERMODYN/ENERGY TRANSFER
EESC GU4925	INTRO TO PHYSICAL OCEANOGRAPHY
EESC GU4930	EARTH'S OCEANS # ATMOSPHERE

### Other Climate System Courses

EESC BC3109	Hydrology
EESC UN3101	Geochemistry for a Habitable Planet
EESC UN3201	SOLID EARTH DYNAMICS
EESC GU4220	GLACIOLOGY
EESC GU4835	Wetlands and Climate Change

EESC GU4885	CHEMISTRY OF CONTINENTAL WATERS
EESC GU4923	Biological Oceanography
EESC GU4924	INTRO TO ATMOSPHERIC CHEMISTRY
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY

### Supporting EESC Courses

EESC UN3400	COMPUTATIONAL EARTH SCIENCE
EESC GU4210	GEOPHYSICAL FLUID DYNAMICS
EESC GU4223	SEDIMENTARY GEOLOGY
EESC GU4230	CRUSTAL DEFORMATION
EESC GU4887	ISOTOPE GEOLOGY I
EESC GU4888	Stable Isotope Geochemistry

## Climate Solutions, Justice, Policy and Communication

3 points minimum (any one course below):

### Solutions Courses

EESC BC3045	RESPONDING TO CLIMATE CHANGE (Barnard College)
ARCH UN3120	CITY, LANDSCAPE, # ECOLOGY
EAEE E2002	
EAEE E2100	A BETTER PLANET BY DESIGN
EAEE E4001	INDUST ECOLOGY-EARTH RESOURCES
EAEE E4002	ALTERNATIVE ENERGY RESOURCES
EAEE E4006	Field methods for environmental engineering
EAEE E4300	INTRO TO CARBON MANAGEMENT
EAEE E4302	CARBON CAPTURE
EAEE E4301	CARBON STORAGE
EAEE E4305	CO2 UTILIZATION AND CONVERSION
CIEE E3250	
MECE E4211	ENERGY SOURCES AND CONVERSION
SDEV GU4250	CLIMATE CHANGE: RESILIENCE # ADAPTATION

### Climate Justice, Policy, Economics

ANTH BC3932	CLIMATE CH./GLOB. MIGRATION/ HUMAN RIGHTS (Barnard College)
ANTH V3861	
ARCH UN3400	ENVIRONMENTAL VISUALIZATIONS OF NYC
ECON BC3039	ENVIRONMENTAL & NAT. RES. ECONOMICS (Barnard College)

ECON BC3040 ENVIRONMENTAL LAW (Barnard College)

ECON UN2257 THE GLOBAL ECONOMY

ECON GU4750 GLOBALIZATION # ITS RISKS

POLS UN3648 GOVERNING THE GLOBAL ECONOMY

POLS GU4814 GLOBAL ENERGY: SECURITY/GEOPOL

POLS GU4863 INTERNATIONAL POLITICAL ECONOMY OF DEVELOPING COUNTRIES

SDEV UN3355 CLIMATE CHANGE AND LAW

SDEV UN3360 DISASTERS AND DEVELOPMENT

## MINOR IN EARTH AND SPACE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Minors, Concentrators, and Special Concentrators](#) above.

The minor in Earth and Space requires a minimum of 15 points, distributed as follows:

### Introductory Course

3 points minimum (one course):

One of the following:

ASTR UN1453 ANOTHER EARTH

ASTR BC1753 LIFE IN THE UNIVERSE

EESC UN2300 EARTH'S ENVIRO SYST: LIFE SYST

### Astronomy Courses

6 points minimum (two courses):

Two of the following:

ASTR UN1403 EARTH, MOON, AND PLANETS

ASTR UN1404 STARS, GALAXIES # COSMOLOGY

ASTR UN1420 Galaxies and Cosmology

ASTR UN1836 STARS AND ATOMS

Or the following ASTR sequence:

ASTR UN2001 INTRO TO ASTROPHYSICS I

ASTR UN2002 INTRO TO ASTROPHYSICS II

### DEES Courses

6 points minimum (two courses):

One of the following:

EESC UN2200 EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH

EESC UN3201 SOLID EARTH DYNAMICS

Plus one of the following:

EESC UN2100 EARTH'S ENVIRO SYST: CLIM SYST

EESC UN3101 Geochemistry for a Habitable Planet

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

Concentrations are available to students who entered Columbia in or before Fall 2023. The requirements for the Bachelor of Arts degree, and the role of the concentration in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Concentrations are not available to students who entered Columbia in or after Fall 2024.

### Concentration in Earth Science

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators](#) above.

The concentration in Earth science requires a minimum of 24 points, distributed as follows:

#### Foundation Courses

EESC UN2100 EARTH'S ENVIRO SYST: CLIM SYST

or EESC UN2300 EARTH'S ENVIRO SYST: LIFE SYST

EESC UN2200 EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH

### Supporting Mathematics and Science Courses

Two science or mathematics courses (6-7 points) selected from among those listed for the Earth science major above.

### Depth and Breadth and Related Fields Requirements

A minimum of 9 points (typically three courses) is required as follows:

EESC UN3101 Geochemistry for a Habitable Planet

or EESC UN3201 SOLID EARTH DYNAMICS

One additional course chosen from those listed under Depth Requirement for the earth science major above.

The third course selected from those listed under either Depth Requirement or Breadth and Related Fields Requirement for the earth science major above.

## Concentration in Environmental Science

Please read Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators above.

The concentration in environmental science requires a minimum of 25.5 points, distributed as follows:

### Foundation Courses

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

### Supporting Mathematics and Science Courses

Two science or mathematics courses (6-7 points) selected from among those listed for the environmental science major above.

### Depth and Breadth and Related Fields Requirements

A minimum of 6 points (two courses) is required as follows:

EESC UN3101	Geochemistry for a Habitable Planet
or EESC UN3201	SOLID EARTH DYNAMICS

One additional course selected from those listed under either Depth Requirement or Breadth and Related Fields Requirement for the environmental science major above.

## Special Concentration in Environmental Science for Majors in Environmental Biology

Please read Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators above.

The Department of Earth and Environmental Sciences sponsors a special concentration which must be done in conjunction with the environmental biology major. Students should be aware that they must complete the environmental biology major in order to receive credit for the special concentration.

The special concentration in environmental science requires a minimum of 31.5 points, distributed as follows:

### Introductory Environmental Science (13.5 points)

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

### Introductory Science (6 points)

Two courses in chemistry, physics, mathematics, or environmental biology from the supporting mathematics and science list for the environmental science major above.

### Advanced Environmental Science (12 points)

Four courses at the 3000-level or above chosen from those recommended for the environmental science major above.

Advanced courses used to fulfill requirements in the environmental biology major cannot count toward requirements for the special concentration.

## Special Concentration in Environmental Biology for Majors in Environmental Science

Please read Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators above.

The Department of Ecology, Evolution, and Environmental Biology sponsors a special concentration which must be done in conjunction with the environmental science major. Students should be aware that they must complete the environmental science major in order to receive credit for the special concentration.

The special concentration in environmental biology requires a minimum of 39 points, distributed as follows:

### Introductory Environmental Biology and Environmental Science (17 points)

EEEB UN2001	ENVIRONMENTAL BIOLOGY I
EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EEEB UN2002	ENVIRONMENTAL BIOLOGY II

## Introductory Science (13 points)

Select one of the following chemistry sequences:

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
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CHEM UN1604 & CHEM UN2507	2ND TERM GEN CHEM (INTENSIVE) and Intensive General Chemistry Laboratory
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One term of statistics such as the following:

STAT UN1101	INTRODUCTION TO STATISTICS
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STAT UN1201	CALC-BASED INTRO TO STATISTICS
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BIOL BC2286	STATISTICS # RESEARCH DESIGN
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EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
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EEEB UN3087	CONSERVATION BIOLOGY
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## Advanced Environmental Biology (9 points)

Three additional advanced EEEB courses (3000-level and above), each chosen from a different curricular area (evolution/genetics, ecology/behavior/conservation, anatomy/physiology/diversity, biology laboratory courses).

Advanced courses used to fulfill requirements in the environmental science major cannot count toward requirements for the special concentration.

## Sustainable Development

Students interested in sustainable development should refer to the *Sustainable Development* section in this Bulletin.

## CONCENTRATION IN ENVIRONMENTAL SCIENCE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators](#) above.

The concentration in environmental science requires a minimum of 25.5 points, distributed as follows:

### Foundation Courses

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
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EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
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EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
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## Supporting Mathematics and Science Courses

Two science or mathematics courses (6-7 points) selected from among those listed for the environmental science major above.

## Depth and Breadth and Related Fields Requirements

A minimum of 6 points (two courses) is required as follows:

EESC UN3101	Geochemistry for a Habitable Planet
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or EESC UN3201	SOLID EARTH DYNAMICS
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One additional course selected from those listed under either Depth Requirement or Breadth and Related Fields Requirement for the environmental science major above.

## SPECIAL CONCENTRATION IN ENVIRONMENTAL SCIENCE FOR MAJORS IN ENVIRONMENTAL BIOLOGY

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators](#) above.

The Department of Earth and Environmental Sciences sponsors a special concentration which must be done in conjunction with the environmental biology major. Students should be aware that they must complete the environmental biology major in order to receive credit for the special concentration.

The special concentration in environmental science requires a minimum of 31.5 points, distributed as follows:

## Introductory Environmental Science (13.5 points)

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
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EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
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EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
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## Introductory Science (6 points)

Two courses in chemistry, physics, mathematics, or environmental biology from the supporting mathematics and science list for the environmental science major above.

## Advanced Environmental Science (12 points)

Four courses at the 3000-level or above chosen from those recommended for the environmental science major above.

Advanced courses used to fulfill requirements in the environmental biology major cannot count toward requirements for the special concentration.

## SPECIAL CONCENTRATION IN ENVIRONMENTAL BIOLOGY FOR MAJORS IN ENVIRONMENTAL SCIENCE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators](#) above.

The Department of Ecology, Evolution, and Environmental Biology sponsors a special concentration which must be done in conjunction with the environmental science major. Students should be aware that they must complete the environmental science major in order to receive credit for the special concentration.

The special concentration in environmental biology requires a minimum of 39 points, distributed as follows:

### Introductory Environmental Biology and Environmental Science (17 points)

EEEB UN2001	ENVIRONMENTAL BIOLOGY I
EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EEEB UN2002	ENVIRONMENTAL BIOLOGY II

### Introductory Science (13 points)

Select one of the following chemistry sequences:

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I-LECTURES and GENERAL CHEMISTRY II-LECTURES
CHEM UN1604 & CHEM UN2507	2ND TERM GEN CHEM (INTENSIVE) and Intensive General Chemistry Laboratory

One term of statistics such as the following:

STAT UN1101	INTRODUCTION TO STATISTICS
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STAT UN1201	CALC-BASED INTRO TO STATISTICS
BIOL BC2286	STATISTICS # RESEARCH DESIGN
EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
EEEB UN3087	CONSERVATION BIOLOGY

## Advanced Environmental Biology (9 points)

Three additional advanced EEEB courses (3000-level and above), each chosen from a different curricular area (evolution/genetics, ecology/behavior/conservation, anatomy/physiology/diversity, biology laboratory courses).

Advanced courses used to fulfill requirements in the environmental science major cannot count toward requirements for the special concentration.

## EAST ASIAN STUDIES

### THE EAST ASIAN LANGUAGES AND CULTURES DEPARTMENT:

Department website: <http://ealac.columbia.edu/>

Office location: 407 Kent Hall

Office contact: 212.854.5027

Director of Undergraduate Studies: [Lu Kou, 412 Kent, lk2950@columbia.edu]

Undergraduate Administrator: [Jennifer Petit-Day, 407 Kent, jp4567@columbia.edu]

### THE STUDY OF EAST ASIAN LANGUAGES AND CULTURES

The program in East Asian studies offers a wide range of courses in a variety of disciplines, as well as training in the Chinese, Japanese, Korean, and Tibetan languages. The program is designed to provide a coherent curriculum for undergraduates wishing to major in East Asian studies, with disciplinary specialization in anthropology, art history, economics, history, literature, philosophy, political science, sociology, or religion. The department also offers a series of introductory and thematic courses especially designed for students seeking to acquire some knowledge of East Asia as part of their broader undergraduate experience.

### STUDENT ADVISING

Information to be added



## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Study Abroad Courses

East Asian Studies majors or concentrators who opt to spend the spring semester of their junior year abroad should contact the Director of Undergraduate Studies for information about course selection in the sophomore year.

Students planning to study abroad their junior year must take the required disciplinary and senior thesis-related courses in the spring of their sophomore year. Please contact the Director of Undergraduate Studies for more details.

**Through the Columbia University Center for Undergraduate Global Engagement (UGE), there are a few study abroad options available to students:**

#### The Kyoto Consortium for Japanese Studies

The Kyoto Consortium offers Columbia students the opportunity to study in Japan with a program that offers intensive instruction in the Japanese language and courses that explore a wide range of topics in Japanese studies. The program is designed to strengthen your Japanese skills through intensive language training, cultural immersion, and regular interactions with the local community and/or your host family.

#### ACADEMIC YEAR/ SEMESTER STUDY

Students should have the equivalent of two semesters (fall departure) or three semesters (spring departure) of college-level Japanese completed by the time of their departure. The program is most appropriate for the junior year, but other arrangements are considered.

### Summer Courses

#### The Kyoto Consortium for Japanese Studies SUMMER STUDY

##### Modern Japanese Track

This program is open to students in good academic standing who have completed at least one year of college-level Japanese or the equivalent. Recent graduates may also apply.

##### Classical Japanese Track

This program is open to students in good academic standing who have completed three years of college-level Japanese or the equivalent.

#### Columbia Summer in Beijing: Chinese Language Program

The Columbia Summer in Beijing: Chinese Language program offers Columbia students of all language levels (beginner to advanced) the opportunity to study in Beijing and complete one academic year of Chinese in nine weeks

through intensive courses, language exchange, drill sessions, and cultural activities.

#### Columbia Summer in Shanghai: Business Chinese

The Columbia Summer in Shanghai: Business Chinese program offers Columbia students the opportunity to learn Business Chinese through an intensive course in which students can learn the cultural behaviors, jargon, and linguistic styles used in a professional environment as well as develop their resume and interview skills for multinational businesses. Students should have the equivalent of four semesters of college-level Chinese completed before their departure.

For further information about all of the East Asian programs offered through the Columbia University Center for Undergraduate Global Engagement (UGE), please contact the assigned advisor for each program listed on the UGE website.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Senior Thesis Coursework and Requirements

East Asian Studies majors who wish to write a senior thesis apply to the EALAC Senior Thesis Program at the end of their junior year. Students must have a minimum grade point average of 3.6 in courses taken in the major at the time of the application. Students interested in applying to the Senior Thesis Program should submit the EALAC Senior Thesis Program Application (see Undergraduate Planning Sheets and Forms). The deadline for submitting applications is usually in late April or early May. Please contact the Academic Coordinator for more information about the application process.

All potential thesis writers are required to enroll in the Senior Thesis Research Workshop (EAAS UN3999) in the fall of the senior year. Students who perform satisfactorily in this workshop, successfully complete a thesis proposal, and find a faculty adviser will then write the Senior Thesis itself in the spring semester under the direction of the adviser and a graduate student tutor (EAAS UN3901).

The senior thesis typically consists of about 30-35 pages of text (double-spaced, normal typeface and margins) and 5-8 pages of references. Under no circumstances should a thesis exceed a total of 50 pages (including references), without the special permission of the faculty adviser.

Successful completion of the thesis by the April 1 deadline in the spring semester will be necessary but not sufficient for a student to receive departmental honors. Normally no more than 10% of graduating majors receive departmental honors in a given academic year; as such, not all thesis writers will receive honors.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

In order to qualify for departmental honors, students must have a GPA of at least 3.7 in classes for the major and have submitted an honors senior thesis of distinction. The faculty of the Department of East Asian Languages and Cultures submits recommendations to the College Committee on Honors for confirmation. Normally no more than 10% of the graduating majors in the department receive departmental honors. In addition, EALAC students are eligible to receive both Latin and Phi Beta Kappa Honors conferred by Columbia College and Phi Beta Kappa inductees.

In addition, the Japanese language program awards the Keiko Chevray Award and the Mary Hue Award for Japanese language; the Korean language program awards The Center for Korean Research Manhae Prize for Korean Language; and students in the Chinese language program are eligible for the Columbia Award for Chinese Language Study.

Concentrators are not eligible for departmental honors.

### OTHER IMPORTANT INFORMATION

To be added

### PROFESSORS

Robert Hymes  
Theodore Hughes  
Dorothy Ko (Barnard History)  
Eugenia Lean  
Feng Li  
Lening Liu  
Lydia Liu  
D. Max Moerman (Barnard)  
Wei Shang  
Haruo Shirane  
Tomi Suzuki  
Gray Tuttle  
Madeleine Zelin

### ASSOCIATE PROFESSORS

Michael Como (Religion)  
Jungwon Kim  
David Lurie  
Lien-Hang Nguyen (History)  
Gregory Pflugfelder  
Ying Qian

### ASSISTANT PROFESSORS

Nicholas Barlett (Barnard)  
Seong Uk Kim  
Lu Kou

Paul Kreitman  
John Phan  
Takuya Tsunoda  
Zhaohua Yang (Religion)

### AFFILIATED FACULTY

Robert Harrist (Art History)  
Lauran Hartley (C.V. Starr East Asian Library)  
Matthew McKelway (Art History)  
Jonathan Reynolds (Art History, Barnard)

### SENIOR LECTURERS

Shigeru Eguchi  
Lingjun Hu  
Ji-Young Jung  
Kyoko Loetscher  
Yuan-Yuan Meng  
Fumiko Nazikian  
Miharu Nittono  
Shaoyan Qi  
Zhongqi Shi  
Joowon Suh  
Sonam Tsering  
Ling Yan  
Zhirong Wang  
Chen Wu  
Jia Xu

### LECTURERS

Kaidi Chen  
Eunice Chung  
Tianqi Jiang  
Beom Lee  
Yike Li  
Sonam Tsering Ngulphu  
Chung Nguyen  
Keiko Okamoto  
Tao Peng  
Naoko Sourial  
Chikako Takahashi  
Naofumi Tatsumi  
Hailong Wang  
Mihoko Yagi  
Hyunkyu Yi  
Sue Y. Yoon  
Yanwen Wu

### ADJUNCT FACULTY

Allison Bernard  
Yongjun Choi  
Leta Hong Fincher  
Lauran Hartley  
Hey-Ryoun Hong  
Jiyeon Kim  
Yun Kim

Mayumi Nishida  
 Vinh Nguyen  
 Andrew Plaks  
 Morris Rossabi  
 Seunghyo Ryu  
 Shuichiro Takeda

## ON LEAVE (TO BE ADDED) GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Course Numbering Structure

The following are general guidelines to the numbering of department courses open to undergraduates. Students with questions about the nature of a course should consult with the instructor or the Director of Undergraduate Studies.

- 1000-level: Introductory-level undergraduate courses and first-year language courses
- 2000-level: Intermediate-level undergraduate courses and second-year language courses
- 3000-level: Advanced-level undergraduate courses and third-year language courses
- 4000-level: Advanced courses geared toward undergraduate students available to graduate students or geared toward both undergraduate and graduate students, fourth-year and above language courses

### Guidance for Transfer Students

[http://ealac.columbia.edu/wp-content/uploads/2022/09/EALAC\\_Transfer-Credit-Approval-Form.pdf](http://ealac.columbia.edu/wp-content/uploads/2022/09/EALAC_Transfer-Credit-Approval-Form.pdf)

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in East Asian Studies

*The requirements for this program were modified in the Spring 2017 semester. Students who declared an EAS major before this semester have the option of following the old or the new requirements. If you have any questions, please contact the Director of Undergraduate Studies.*

#### Prerequisite

Students must meet the following prerequisite prior to declaring the East Asian Studies major: two years of Chinese, Japanese, Korean, Tibetan, Vietnamese, or the proficiency equivalent (to be demonstrated by placement examination).

#### Language Requirement

Third-year Chinese, Japanese, Korean, Tibetan, or Vietnamese (completion of the UN3005-UN3006 level in

Chinese, Japanese, or Korean; TIBT UN3611-UN3612 level in Tibetan; VIET UN3101-UN3102), or the proficiency equivalent (to be demonstrated by placement examination).

Students of Chinese may also complete UN3003-UN3004 to meet the third-year requirement.

One of the following sequences (in the target language):

CHNS UN3003 & CHNS UN3004	THIRD YEAR CHINESE I and THIRD YEAR CHINESE II
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Or, for heritage students:

CHNS UN3005 & CHNS UN3006	THIRD YEAR CHINESE W and THIRD YEAR CHINESE W II
JPNS UN3005 & JPNS UN3006	THIRD YEAR JAPANESE I and THIRD YEAR JAPANESE II
KORN UN3005 & KORN UN3006	THIRD YEAR KOREAN I and THIRD YEAR KOREAN II
TIBT UN3611 & TIBT UN3612	THIRD YEAR MOD COLLOQ TIBET I and THIRD YEAR MODERN TIBETAN II
VIET UN3101	THIRD YEAR VIETNAMESE I

Students who test out of three years or more of a language must take an additional year of that language or another East Asian language at Columbia in order to satisfy the language requirement.

### Introductory Courses

Students are required to take:

AHUM UN1400	COLLOQUIUM ON MAJOR TEXTS
-------------	------------------------------

Students must also select two of the following:

ASCE UN1359	INTRO TO EAST ASIAN CIV: CHINA
ASCE UN1361	INTRO EAST ASIAN CIV: JPN
ASCE UN1363	INTRO TO EAST ASIAN CIV: KOREA
ASCE UN1365	INTRO EAST ASIAN CIV: TIBET
ASCE UN1367	INTRO EA CIV: VIETNAM

First-year students and sophomores, prior to declaring an East Asian studies major, are strongly urged to take one or more of the introductory courses.

### Methodology Course

All majors **must** take EAAS UN3990 APPROACHES TO EASIAN STUDIES the fall of their junior year. **Please note that this course is only offered in the fall semester.**

### Elective Courses

Students must take four elective courses in East Asian studies, to be chosen in consultation with the DUS. Two of these courses must be EALAC or AMEC courses. Courses in a second East Asian language (one year minimum) or a

classical East Asian language (one semester minimum) may be used to fulfill one elective course.

Please note that the following courses CANNOT be counted as an elective course. These courses can only be used to fulfill the EALAC language requirement:

- Business Chinese I/II
- Advanced Business Chinese I/II
- Media Chinese I/II
- Legal Chinese
- Japanese Pop Culture I/II

However, the following courses are NOT categorized as language courses and CAN count as an elective course:

- History of the Chinese Language
- Acquisition of Chinese as a Second Language

### Senior Thesis Program

East Asian Studies majors who wish to write a senior thesis apply to the EALAC Senior Thesis Program at the end of their junior year. Students must have a minimum grade point average of 3.6 in courses taken in the major at the time of the application. Students interested in applying to the Senior Thesis Program should submit the EALAC Senior Thesis Program Application (see [Undergraduate Planning Sheets and Forms](#)). The deadline for submitting applications is usually in late April or early May. Please contact the Academic Coordinator for more information about the application process.

All potential thesis writers are required to enroll in the Senior Thesis Research Workshop (EAAS UN3999) in the fall of the senior year. Students who perform satisfactorily in this workshop, successfully complete a thesis proposal, and find a faculty adviser will then write the Senior Thesis itself in the spring semester under the direction of the adviser and a graduate student tutor (EAAS UN3901).

The senior thesis typically consists of about 30-35 pages of text (double-spaced, normal typeface and margins) and 5-8 pages of references. Under no circumstances should a thesis exceed a total of 50 pages (including references), without the special permission of the faculty adviser.

Successful completion of the thesis by the April 1 deadline in the spring semester will be necessary but not sufficient for a student to receive departmental honors. Normally no more than 10% of graduating majors receive departmental honors in a given academic year; as such, not all thesis writers will receive honors.

## Minor in East Asian Studies

### Prerequisite

2 nd year level in one East Asian language.

### Language requirement

-3rd Year level in one East Asian language (typically two semesters of a 3rd year level language)

- If the student has tested out of 3rd year level in one East Asian language, then they must complete at least two full semesters of language study either at the 4th year level or above in that language, or in a second East Asian language at any level
- Alternatively, a student who has tested out may also complete one semester of an approved classical language + one additional content elective (see below for elective requirements) to fulfill this requirement

### Core requirement

AHUM UN1400 OR one of the following East Asian Civilization courses

- ASCE UN1359 (China Civ)
- ASCE UN1361 (Japan Civ)
- ASCE UN1363 (Korea Civ)
- ASCE UN1365 (Tibet Civ)
- ASCE UN1367 (Vietnam Civ)

### Elective requirement

Two EAAS courses at the 3000-level or above, or one EAAS course and one approved non-EAAS course focused on East Asia, of 3000-level or above.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in East Asian Studies

#### Prerequisite

Students must meet the following prerequisite prior to declaring the East Asian Studies concentration: two years of Chinese, Japanese, Korean, Tibetan, Vietnamese, or the proficiency equivalent (to be demonstrated by placement examination).

#### Language Requirement

Third-year Chinese, Japanese, Korean, Tibetan, or Vietnamese (completion of the UN3005-UN3006 level in Chinese, Japanese, or Korean; TIBT UN3611-UN3612 level in Tibetan; VIET UN3101-UN3102), or the proficiency

equivalent (to be demonstrated by placement examination).  
Students of Chinese may also complete UN3003-UN3004 to meet the third-year requirement.

One of the following sequences (in the target language):

CHNS UN3003 & CHNS UN3004	THIRD YEAR CHINESE I and THIRD YEAR CHINESE II
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Or, for heritage students:

CHNS UN3005 & CHNS UN3006	THIRD YEAR CHINESE W and THIRD YEAR CHINESE W II
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JPNS UN3005 & JPNS UN3006	THIRD YEAR JAPANESE I and THIRD YEAR JAPANESE II
------------------------------	--

KORN UN3005 & KORN UN3006	THIRD YEAR KOREAN I and THIRD YEAR KOREAN II
------------------------------	---

TIBT UN3611 & TIBT UN3612	THIRD YEAR MOD COLLOQ TIBET I and THIRD YEAR MODERN TIBETAN II
------------------------------	---

VIET UN3101	THIRD YEAR VIETNAMESE I
-------------	-------------------------

Students who test out of a third-year level East Asian language must take either an additional year of the same language, one year of a classical East Asian language, one year of an additional East Asian language, or two electives.

### Introductory Courses

AHUM UN1400	COLLOQUIUM ON MAJOR TEXTS
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Select one of the following:

ASCE UN1359	INTRO TO EAST ASIAN CIV: CHINA
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ASCE UN1361	INTRO EAST ASIAN CIV: JPN
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ASCE UN1363	INTRO TO EAST ASIAN CIV: KOREA
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ASCE UN1365	INTRO EAST ASIAN CIV: TIBET
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ASCE UN1367	INTRO EA CIV: VIETNAM
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### Electives

Students must take two courses in East Asian Studies at Columbia or Barnard at the 3000- or 4000-level, subject to approval by the DUS. Courses in a second East Asian language (one year minimum) or a classical East Asian language (one semester minimum) may be used to fulfill one elective course.

Please note that the following courses CANNOT be counted as an elective course. These courses can only be used to fulfill the EALAC language requirement:

- Business Chinese I/II
- Advanced Business Chinese I/II
- Media Chinese I/II
- Legal Chinese
- Japanese Pop Culture I/II

However, the following courses are NOT categorized as language courses and CAN count as an elective course:

- History of the Chinese Language
- Acquisition of Chinese as a Second Language

### Senior Thesis Program

Concentrators are not eligible for the Senior Thesis Program or for departmental honors.

## ECONOMICS

### ECONOMICS DEPARTMENT:

Department Website: <https://econ.columbia.edu>

Office Location: 1022 International Affairs Building

Office Contact: 212-854-3680, [econ-info@columbia.edu](mailto:econ-info@columbia.edu)

Director of Undergraduate Studies: Dr. Susan Elmes, 1006 International Affairs Building; 212-854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)

Undergraduate Coordinator: Laura Yan, [ly38@columbia.edu](mailto:ly38@columbia.edu)

### THE STUDY OF ECONOMICS

Economics is the study of the ways in which society allocates its scarce resources among alternative uses and the consequences of these decisions. The areas of inquiry deal with a varied range of topics such as international trade, domestic and international financial systems, labor market analysis, and the study of less developed economies. Broadly speaking, the goal of an economics major is to train students to think analytically about social issues and, as such, provide a solid foundation for not only further study and careers in economics, but also for careers in law, public service, business, and related fields.



The Economics Department offers a general economics major in addition to five interdisciplinary majors structured to suit the interests and professional goals of a heterogeneous student body. All of these programs have different specific requirements but share the common structure of core theoretical courses that provide the foundation for higher-level elective courses culminating in a senior seminar. Students are urged to carefully look through the details of each of these programs and to contact an appropriate departmental advisor to discuss their particular interests.

## STUDENT ADVISING

The Department of Economics offers a variety of advising resources to provide prospective and current undergraduate majors and concentrators with the information and support needed to successfully navigate through the program. These resources are described below.

### Consulting Advisors

For answers to the most common questions that students have about the majors, the department has graduate student advisors, who are available by e-mail at [econ-advising@columbia.edu](mailto:econ-advising@columbia.edu), or during weekly office hours to meet with students.

Students should direct all questions and concerns about any economic program to the graduate student advisors either in person or via e-mail. The graduate student advisors can discuss major requirements, scheduling, and major course selection, as well as review student checklists and discuss progress in the major. Occasionally, graduate student advisors may refer a student to someone else in the department (such as the director of undergraduate studies) or in the student's school for additional advising.

Contact information and office hours for the graduate student advisors are posted on the Advisors page [Advisors page](#) of the departmental website in the week prior to the beginning of the semester. Students considering one of the interdepartmental majors should speak to both a graduate student advisor from the Economics Department and the advisor from the other department early in the sophomore year.

### Faculty Advisors

Faculty advisors are available only to declared majors. They are able to discuss students' academic and career goals, both in terms of the undergraduate career and post-graduate degrees and research. Students wishing to discuss these types of substantive topics may request a faculty advisor by completing the google form available on the [Advisors page](#) of the departmental website.

The department does its best to match students with faculty members that share similar academic interests. While faculty advisors do not discuss major requirements—that is the role of the graduate student advisors—they do provide guidance in course selection as it relates to meeting a student's intellectual goals and interests, as well as advise on career and research options. It is recommended that students who plan on attending a Ph.D. program in economics or are interested in pursuing economics research after graduation request a faculty advisor.

## Enrolling in Classes

### Prerequisites

The Department strictly enforces all course prerequisites. Prerequisite courses cannot be taken concurrently with or after the course—they must be taken before the course. Students who take a course out of sequence (before or concurrently with its prerequisites) will not be allowed to count those credits towards the completion of their major, and consequently will be required to take an additional course to replace those credits. For placement in the calculus sequence, please consult the Math department's section of the Bulletin. The list of Prerequisites for Econ courses can be found on the [Course Prerequisites](#) page of the Dept. website.

### Registration for Restricted Classes

Most lecture courses are open to online Registration. However, Seminars, Research Courses, Independent Study and Corporate Finance are restricted. Information regarding Seminar Registration can be found on the [Senior Seminar Registration](#) page. Registration information for Research Course credit, Independent Study and Corporate Finance can be found on the [Registration Information](#) page.

## Preparing for Graduate Study

On the [Preparing for Graduate School](#) page on our website, you will find general advice for students thinking about pursuing a PhD in economics. All students who are considering graduate work should review the material posted there. Since graduate work requires more mathematical and statistical training than the economics major, students interested in graduate work should speak with econ-advising about planning their course schedule.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

AP tests must be taken in both microeconomics and macroeconomics, with a score of 5 on one test and at least a 4 on the other. Provided that this is achieved, the department grants 4 credits for a score of 4 and 5 on the AP Economics exam along with exemption from [ECON UN1105 PRINCIPLES OF ECONOMICS](#).

### IB Credit or GCE A Level Exams

If you took the IB Exam and received either a 6 or a 7 or if you took GCE A Level Exams and received an A or a B, then you will receive credit from the college. Those credits will automatically exempt you from the Principles requirement.

### Barnard College Courses

Barnard Economics Core Courses and seminars do NOT count towards the Columbia Economics Major or concentration. Specifically, the following courses will NOT count toward your major program:

[ECON BC1003](#), [ECON BC1007](#), [ECON BC2411](#), [ECON BC3018](#), [ECON BC3033](#), [ECON BC3035](#).

The Barnard courses listed below will count as Electives toward your Economics Major provided you have completed the course prerequisites, have not taken an equivalent course in the Columbia Department, and have fulfilled the minimum requirement of taking 5 lecture courses in the Columbia Department.

#### Economics (Barnard)

ECON BC2010	The Economics of Gender
ECON BC2012	Economic History of Western Europe
ECON BC2017	INTRODUCTION TO HEALTH ECONOMICS
ECON BC2020	Introduction to Development Economics
ECON BC2075	Logic and Limits of Economic Justice
ECON BC2224	CODING MARKETS
ECON BC3010	American Wellbeing
ECON BC3011	INEQUALITY AND POVERTY
ECON BC3012	THE ECONOMICS OF EDUCATION
ECON BC3013	Economic History of the United States
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON BC3019	LABOR ECONOMICS
ECON BC3027	Economics of Inequality
ECON BC3022	Economic History of Europe
ECON BC3023	Topics in Economic History
ECON BC3024	MIGRATION # ECONOMIC CHANGE
ECON BC3026	Economics of the Public Sector
ECON BC3029	EMPIRICAL APPROACHES DEVLPMNT
ECON BC3031	Economics of Life
ECON BC3038	INTERNATIONAL MONEY # FINANCE
ECON BC3039	Environmental and Natural Resource Economics
ECON BC3041	THEORETICL FOUNDTNS-POLIT ECON
ECON BC3045	BUSINESS CYCLES
ECON BC3047	International Trade
ECON BC3049	Economic Evaluation of Social Programs

ECON BC3270	Topics in Money and Finance
ECON UN3025	FINANCIAL ECONOMICS
ECON UN3265	MONEY AND BANKING

#### NOTES:

1) ECON UN2261 Accounting and Finance for Economics does NOT count as an economics elective. Financial Economics majors may take this course to fulfill their accounting requirement.

2) The above list is not necessarily complete. Barnard Department on occasion adds new lecture courses. If you have a question about a Barnard elective course not listed above, then you should contact [econ-advising@columbia.edu](mailto:econ-advising@columbia.edu).

## Transfer Courses

Any courses taken outside of the Economics Departments at Columbia or Barnard that you would like to apply towards the completion of your economics degree must be approved by the Department of Economics in addition to approval by your school. All majors and joint majors are required to take a minimum of 5 lecture courses from the Columbia Department of Economics and must take their senior seminar at Columbia.

See the [Transfer Credit Information](#) page for details on which courses may be eligible for transfer credit, as well as information on how to apply for transfer credit. Please read the information carefully before submitting your materials for review.

## Study Abroad Courses

All students who plan to study abroad must contact Sunil Gulati during the prior semester to get preliminary approval for any economics courses that they intend to take abroad. Students should also review the information posted on the [Transfer Credit Information](#) page for details regarding which courses may be eligible.

## Summer Courses

All students who hope to take classes in the Summer outside of Columbia University must also contact Sunil Gulati in advance to get preliminary approval for any economics courses. Note that students must also have approval from their school to take Summer courses outside of Columbia.

# UNDERGRADUATE RESEARCH AND SENIOR THESIS

## Undergraduate Research in Courses

All majors write a research paper in either a senior seminar or in the honors seminar. Each semester the department offers a wide range of senior seminars (see [Senior Seminar Descriptions](#) for the seminars currently on offer). Seminars are small, discussion-based courses focused on a research topic in economics. Students are expected to attend and participate in these courses, as well as to write an original research paper. Registration information for senior seminars is available on the [Senior Seminar Registration](#) page. Some students will write a senior thesis in the Honors Seminar. Details about writing a senior thesis are below.

## Senior Thesis Coursework and Requirements

### SENIOR HONORS THESIS

#### Honors Seminar

The honors seminar is a full-year course, and you will not receive a grade until you have completed both semesters. Completing both semesters satisfies your seminar requirement in the economics department. If you do not complete both semesters, however, you must take a senior seminar to graduate as a major. For details see the Senior Honors Thesis info on the [Honors and Prizes](#) page.

Students who successfully complete the Honors Seminar are eligible to graduate with departmental honors in economics.

## Undergraduate Research Outside of Courses

During the academic year, students may work as an RA with a faculty member or PhD student and receive 1 – 2 credits of either ECON GU4996 Research Credit or ECON GU4995 Research Credit (GU 4995 is for GS students only). Research positions typically entail an average of 3 hours of work per week per credit. Research credit may not be used as a substitute for elective or seminar requirements in the major and students will receive a letter grade for their work. Students considering graduate work or writing a senior thesis in economics should take one or more RA positions during their time at Columbia. Information on Research Credit (GU4995 and GU4996) is posted on the [Opportunities](#) page. Available RA positions are posted every semester on our WIKI page, [Econ Info For Students](#) (log-in required).

## DEPARTMENT HONORS AND PRIZES

### Departmental Honors

Economics majors and economics joint majors who wish to be considered for departmental honors in economics must:

1. Have at least a 3.7 GPA in their major courses;
2. Take ECON GU4999 Senior Honors Thesis Workshop (a one-year course);
3. Receive at least a grade of A- in ECON GU4999 Senior Honors Thesis Workshop.

Students must apply for admission to GU4999 and details regarding that application are included in the annual Summer Mailing sent to all students with a declared program in economics. Please note that ECON GU4999 Senior Honors Thesis Workshop may be taken to fulfill the seminar requirement for the economics major and all economics joint majors. Normally no more than 10% of graduating majors receive departmental honors in a given academic year. Please see the [Honors and Prizes](#) page on the department's website for more information.

### Undergraduate Prizes

All prize recipients are announced at the end of the spring semester each academic year.

#### Sanford S. Parker Prize

Established in 1980, this prize is awarded annually to a Columbia College graduating student who majored or concentrated in economics and plans on continuing his or her studies in an economics Ph.D. program within the two years following his or her graduation.

#### Romine Prize

Established in 1997, this prize is awarded annually to two students (Columbia College or General Studies) majoring in economics: one for the best honors thesis paper, and the other for the best economics seminar paper.

#### Summer Research Prizes

##### *Parker Summer Research Fellowship*

The Parker Summer Fellowship provides financial support for five Columbia College underclassmen who take unpaid summer internships that focus on research. Preference is given to students working with Columbia researchers but all CC students undertaking a summer research position are eligible to apply.

##### *GS Prize for Summer Research*

The GS Summer Fellowship provides financial support for 2 GS underclassmen who take unpaid summer internships that focus on research. Preference is given to students working with Columbia researchers but all GS students undertaking a summer research position are eligible to apply.

## OTHER IMPORTANT INFORMATION

### Online Information

Students can access useful information online, including but not limited to: a comprehensive FAQ page; transfer credit information; sample programs and checklists; faculty office hours, contact information and fields of specialization; advisor contact information; teaching and research assistant opportunities; a list of tutors; and current course offerings.

Posted on our [Announcements](#) page are links to the most important memos that we distribute to our majors including pre-registration mailings, the summer mailing and information for new majors. Our [WIKI](#) page has information about opportunities both inside and outside of the department. Login is required to access the WIKI page.

### Frequently Asked Questions

As a first step, students are encouraged to visit the Dept.'s [FAQ page](#), which provides comprehensive information and answers to the most frequently-asked questions about the departmental majors and requirements. This page also includes a section that answers specific questions of first-year students, sophomores, and non-majors.

## PROFESSORS

Douglas Almond (also School of International and Public Affairs)

Jushan Bai

Jagdish N. Bhagwati

Sandra Black (also School of International and Public Affairs)

Alessandra Casella (also Political Science Department)

Yeon-Koo Che

Pierre-André Chiappori

Graciela Chichilnisky

Richard Clarida (also School of International and Public Affairs)

Donald Davis

Prajit Dutta

Gautam Gowrisankaran

Harrison Hong

R. Glenn Hubbard (also Business School)

Navin Kartik

Wojciech Kopczuk (also School of International and Public Affairs)

Sokbae (Simon) Lee

Qingmin Liu

Suresh Naidu (also School of International and Public Affairs)

Serena Ng

Brendan O'Flaherty

Andrea Prat (also Business School)

Jeffrey Sachs (also Earth Institute, School of International and Public Affairs, Dept of Health Policy and Management)

Xavier Sala-i-Martin

Bernard Salanié

José A. Scheinkman

Stephanie Schmitt-Grohé

Joseph Stiglitz (also Business School, School of International and Public Affairs)

Martín Uribe

Miguel Urquiola (also School of International and Public Affairs)

Eric Verhoogen (also School of International and Public Affairs)

Ebonya Washington (also School of International and Public Affairs)

David Weinstein

Michael Woodford (Chair)

## ASSOCIATE PROFESSORS

Mark Dean

Lena Edlund

Jennifer La'O



## ASSISTANT PROFESSORS

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## LECTURERS

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## ADJUNCT FACULTY

Qi Ge  
Claudia Halbac  
Karla Hoff  
Caterina Musatti

## ON LEAVE

Prof. Willis (2023-2024)  
Profs. Che, Gouin-Bonenfant, Hong, Lipnowski, Sadler, Washongton *Fall 2023*)  
Profs. Casella, Schmitt-Grohe (*Spring 2024*)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

There are a number of resources to assist you in planning your program in economics.

- [Checklists](#) for all programs are available on our website.
- [Econ-advising](#) is available to assist all students with academic planning. They can be reached by email or in person during their office hours.
- Tentative annual course offerings are posted on the [website](#) and in departmental newsletters.
- Information for new students is posted on the [Academic Resources Fair](#) page.

### Course Numbering Structure

All economics programs begin with an introductory 1000 level course (Principles of Economics) and progress through the required 3000 level required core economics courses (Intermediate Micro, Intermediate Macro and Econometrics). Most elective courses are offered at the 3000 and 4000 level and all require that students have completed at least UN 3211 Int Micro and UN 3213 Int Macro. The department offers a limited number of 2000 level electives and these courses only require that students have completed Principles of Economics.

## Guidance for First-Year Students

Our [Academic Resources Fair](#) page has answers to the most common questions of new students at Columbia. On that page you will find information about advising, placement, course planning, opportunities in the department and much more. If you are interested in pursuing economics, then it is strongly recommended that you read through the information posted here.

## Guidance for Transfer Students

Our [Academic Resources Fair](#) page has answers to the most common questions of transfer students at Columbia. On that page you will find information about advising, placement, course planning, opportunities in the department and much more. If you are interested in pursuing economics, then it is strongly recommended that you read through the information posted here.

The [Transfer Credit](#) page has all of the information that you will need to apply for transfer credits for economics courses that you have taken elsewhere. Note that the economics department will also review your transfer credits for calculus I, statistics and accounting courses. Details about all of these courses are also posted at [Transfer Credit Information](#).

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

#### Checklists and Requirements

Checklists and Requirement information are available on the [Department website](#).

#### Economics Core Courses

**All** of the core courses must be completed **no later than the spring semester** of the student's **junior year** and must be taken at Columbia. *Students who take any core course during the fall semester of their senior year must obtain written permission from the department's director of undergraduate studies.* Unless otherwise specified below, all students must complete the following core courses:

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS

#### Prerequisites

Course prerequisites are strictly enforced. Prerequisites must be taken before the course, not after or concurrently.

Economics courses taken before the completion of any of its prerequisites, even with instructor approval, are **not** counted toward the major, concentration, or interdepartmental majors. Exemptions from a prerequisite requirement may only be made, in writing, by the department's director of undergraduate studies. Credits from a course taken *prior* to the completion of its prerequisites are **not** counted towards the major requirements. As a consequence, students are required to complete **additional**, specific courses in economics at the direction of the director of undergraduate studies.

The prerequisites for required courses are as follows:

Course	Prerequisites
ECON UN1105 PRINCIPLES OF ECONOMICS	None
MATH UN1101 CALCULUS I	
STAT UN1201 CALC-BASED INTRO TO STATISTICS	MATH UN1101 CALCULUS I
ECON UN3211 INTERMEDIATE MICROECONOMICS	ECON UN1105 PRINCIPLES OF ECONOMICS MATH UN1201 CALCULUS III or UN1205
ECON UN3213 INTERMEDIATE MACROECONOMICS	ECON UN1105 PRINCIPLES OF ECONOMICS MATH UN1101 CALCULUS I Co-requisite: MATH UN1201 CALCULUS III or UN1205

ECON UN3412 INTRODUCTION TO ECONOMETRICS	MATH UN1201 CALCULUS III or UN1205 ECON UN3211 INTERMEDIATE MICROECONOMICS or UN3213 STAT UN1201 CALC-BASED INTRO TO STATISTICS ECON UN1105 PRINCIPLES OF ECONOMICS ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS MATH UN2010 LINEAR ALGEBRA Corequisites: MATH UN2500 ANALYSIS AND OPTIMIZATION or GU4061
ECON 2000-level electives	
ECON GU4211 ADVANCED MICROECONOMICS	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS ECON UN3412 INTRODUCTION TO ECONOMETRICS MATH UN2010 LINEAR ALGEBRA
ECON GU4412 ADVANCED ECONOMETRICS	ECON UN3211 INTERMEDIATE MICROECONOMICS
ECON GU4213 ADVANCED MACROECONOMICS	ECON UN3213 INTERMEDIATE MACROECONOMICS
ECON GU4413 Econometrics of Time Series and Forecasting	ECON UN3412 INTRODUCTION TO ECONOMETRICS
ECON UN3025 FINANCIAL ECONOMICS	MATH UN2010 LINEAR ALGEBRA
ECON GU4020 ECON OF UNCERTAINTY # INFORMTN	ECON UN3211 INTERMEDIATE MICROECONOMICS
ECON GU4230 ECONOMICS OF NEW YORK CITY	ECON UN3213 INTERMEDIATE MACROECONOMICS
ECON GU4260 MARKET DESIGN	STAT UN1201 CALC-BASED INTRO TO STATISTICS
ECON GU4280 CORPORATE FINANCE	
ECON GU4370 POLITICAL ECONOMY	
ECON GU4700 FINANCIAL CRISES	
ECON GU4710 FINANCE AND THE REAL ECONOMY	
ECON GU4850 COGNITIVE MECH # ECON BEHAVIOR	
ECON GU4860 BEHAVIORAL FINANCE	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS ECON UN3412 INTRODUCTION TO ECONOMETRICS (Co-requisite)
All other ECON 3000- and 4000-level electives	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS ECON UN3412 INTRODUCTION TO ECONOMETRICS
ECON UN3901 ECONOMICS OF EDUCATION	
ECON UN3952 MACROECONOMICS#FORMATION OF EXPECTATIONS	
ECON UN3981 APPLIED ECONOMETRICS	
ECON GU4911 MICROECONOMICS SEMINAR	
ECON GU4913 MACROECONOMICS SEMINAR	
ECON GU4918 SEMINAR IN ECONOMETRICS	
ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS ECON UN3412 INTRODUCTION TO ECONOMETRICS ECON GU4370 POLITICAL ECONOMY
ECPH GU4950 ECONOMICS # PHILOSOPHY	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS ECON UN3412 INTRODUCTION TO ECONOMETRICS
Barnard electives	See Barnard bulletin

It is **strongly recommended** that students take ECON UN3412 INTRODUCTION TO ECONOMETRICS in the semester **immediately** following the completion of the statistics course.

### Grading

No course with a grade of D or lower, including calculus and statistics courses, can count toward the major, concentration, or interdepartmental majors. Economics core courses with a grade of D or F must be retaken and completed with a grade of C- or better.

Students who receive a grade of D or F in a core course are permitted to take a higher-level elective course that has that core course as a prerequisite, so long as it is taken concurrently with the retaking of that core course. For example, if a student fails ECON UN3211 INTERMEDIATE MICROECONOMICS, the student must retake it and, in the same semester, may enroll in an elective course for which it is a prerequisite, provided that all other prerequisites for the elective have been completed. The same rule applies to the required math and statistics courses. For example, if a student fails MATH UN1201 CALCULUS III, the student may retake calculus III concurrently with *Intermediate Microeconomics*. Students who must retake any core economics or math course may not retake it concurrently with a senior seminar; the economics core courses ECON UN3211 INTERMEDIATE MICROECONOMICS, ECON UN3213 INTERMEDIATE MACROECONOMICS, and ECON UN3412 INTRODUCTION TO ECONOMETRICS must be successfully completed before a student may enroll in a seminar.

A grade of W is not equivalent to a grade of D or F; it does not qualify a student to retake the course concurrently with a higher level course that lists the course as a prerequisite. Students who receive a grade of W in a core course must complete the course with a grade of C- or better before taking a course that lists it as a prerequisite.

Only ECON UN1105 PRINCIPLES OF ECONOMICS may be taken for a grade of Pass/D/Fail, and the student must receive a grade of P for it to count towards the requirements for the major, concentration, or interdepartmental majors.

### Economics Electives

Only those courses identified in the Economics Department listings in this Bulletin may be taken for elective credit. All 3000-level or higher electives offered by the Economics Department have ECON UN3211 INTERMEDIATE MICROECONOMICS and ECON UN3213 INTERMEDIATE MACROECONOMICS as prerequisites. However, some electives have additional prerequisites and students should ensure that all prerequisites have been completed (see the table of prerequisites printed above). *Seminars do not count as electives.*

### Seminars

Seminars can be taken only after all of the required core courses in economics have been successfully completed. Students may not take or re-take ECON UN3211 INTERMEDIATE MICROECONOMICS, ECON UN3213 INTERMEDIATE MACROECONOMICS, or ECON UN3412 INTRODUCTION TO ECONOMETRICS concurrently with any senior seminar. *Seminars do not count as electives.* Each seminar is limited to sixteen students, with priority given to seniors. For ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS and ECPH GU4950 ECONOMICS # PHILOSOPHY, priority is given to economics-political science and economics-philosophy majors, respectively.

For seminar registration details, read the information posted on the department's *Senior Seminar Registration* page: <http://econ.columbia.edu/senior-seminars-registration>.

### Mathematics

Students must consult with the Mathematics Department for the appropriate placement in the calculus sequence. Students must complete one of the following sequences:

Select one of the following sequences:

MATH UN1101 & MATH UN1201	CALCULUS I and CALCULUS III
MATH UN1101 & MATH UN1205	CALCULUS I and ACCELERATED MULTIVARIABLE CALC
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

In addition:

1. Students who receive a grade of D or F in MATH UN1201 CALCULUS III or MATH UN1205 must retake the course, but may enroll in ECON UN3211 INTERMEDIATE MICROECONOMICS.
2. Students who receive a grade of D or F in MATH UN1207 HONORS MATHEMATICS A may either retake the course, or take MATH UN1201 CALCULUS III or MATH UN1205, and enroll in ECON UN3211 INTERMEDIATE MICROECONOMICS concurrently.

### Statistics

Unless otherwise specified below, all students must take STAT UN1201 CALC-BASED INTRO TO STATISTICS, or a higher level course, such as STAT GU4204 STATISTICAL INFERENCE, or STAT GU4001.

### Barnard Courses

A limited number of Barnard economics electives may count toward the major, concentration, and interdepartmental majors. Students should pay careful attention to the limit of Barnard electives indicated in their program requirements. Please see the *Transfer Credit* section below for information on the number of Barnard electives that may be taken to fulfill major requirements. In addition, students may receive credit for the major, concentration, and interdepartmental majors only for those Barnard economics courses listed in this Bulletin. However, students may not receive credit for two courses whose content overlaps. Barnard and Columbia economics electives with overlapping content include but are not limited to:

ECON BC3029 & ECON GU4321	EMPIRICAL APPROACHES DEVLPMNT and ECONOMIC DEVELOPMENT
ECON BC3038 & ECON GU4505	INTERNATIONAL MONEY # FINANCE and INTERNATIONAL MACROECONOMICS
ECON BC3019 & ECON GU4400	LABOR ECONOMICS and LABOR ECONOMICS
ECON BC3047 & ECON GU4500	International Trade and INTERNATIONAL TRADE
ECON BC3039 & ECON GU4625	Environmental and Natural Resource Economics and ECONOMICS OF THE ENVIRONMENT
ECON BC3041 & ECON GU4235	THEORETICL FOUNDTNS-POLIT ECON and HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes
ECON GU4400	LABOR ECONOMICS
ECON GU4235	HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes

Students should always first consult with *econ-advising* to confirm that the Barnard elective they wish to take does not overlap with a Columbia elective that they have already taken or plan to take. Students may *not* take the Barnard core economics, math, statistics, or seminar courses for credit towards the completion of major requirements.

### School of Professional Studies Courses

The Department of Economics does not accept *any* of the courses offered through the School of Professional Studies for credit towards the economics major, concentration, or interdepartmental majors with the exception of the courses offered by the Economics Department during the summer session at Columbia.

### Other Department and School Courses

Please note that with the exception of the above Barnard courses and the specific courses listed below for the financial economics major, no other courses offered through the different departments and schools at Columbia count toward the economics majors or concentration.

### Transfer Credits

Students are required to take a minimum number of courses in the Columbia Economics Department. For all majors and interdepartmental majors, students must complete a minimum of *five* lecture courses in the Columbia department. Students may fulfill their remaining requirements for economics lecture courses through AP (or IB or GCE) credits, Barnard electives, transfer courses, and study abroad courses (the latter two are subject to the approval of the Economics Department). The following table summarizes the new rules:

Program	Number of required economics lecture courses	Minimum number which must be taken in the department	Maximum number of outside allowed
Economics major	9	5	4
Financial economics	8	5	3
Economics-mathematics	7	5	2



Economics-political science	7	5	2
Economics-statistics	7	5	2
Economics-philosophy	7	5	2
Economics concentration	7	4	3

1. **Lecture courses** do not include seminars, which must be taken in the Columbia Economics Department. The lecture course counts are counts of economics courses only and do **not** include math, statistics, or courses in other departments;
2. At least two of the three 3000-level economics core courses must be taken in the department and no corresponding Barnard courses are accepted. ECON UN3025 FINANCIAL ECONOMICS and ECON UN3265 MONEY AND BANKING are counted as departmental courses regardless of the instructor;
3. **Outside courses** include AP (or IB or GCE) credits, transfer credits, Barnard 2000- and 3000-level elective courses and transfer credits from other universities. In the case where two or more courses taken outside of Columbia are used as the equivalent of ECON UN1105 PRINCIPLES OF ECONOMICS, those courses are counted as one transfer course.
4. At least one of the core finance courses, ECON UN3025 FINANCIAL ECONOMICS and ECON GU4280 CORPORATE FINANCE, must be taken at Columbia.

**Approval of transfer credits** to fulfill economics requirements must be obtained in writing from the Department of Economics (see the [departmental website](#) or speak with your advising dean for information regarding applications for transfer credit). Approval is granted only for courses that are considered to be comparable to those offered at Columbia.

**Summer courses** taken at other institutions must be approved in writing by the department's transfer credit adviser before the course is taken. The department does not accept transfer credits for any 3000 level core courses taken during a summer session outside of Columbia University. Summer courses taken from the department of economics at Columbia University do not need approval.

**Guidelines and instructions** on how to request transfer credit approval can be found in the *Transfer Credit Information* page of the [departmental website](#).

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## Major in Economics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The economics major requires a minimum of 35 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of at least 44 points as follows:

### Economics Core Courses

All economics core courses

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Economics Electives

Select at least five electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

### Economics Seminar

Select one economics seminar course

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## Major in Financial Economics

Please read **Required Coursework for all Programs** above.

The Department of Economics offers the major in financial economics, which provides an academic framework to explore the role of financial markets and intermediaries in the allocation (and mis-allocation) of capital. Among the topics studied in financial economics are financial markets, banks and other financial intermediaries, asset valuation, portfolio allocation, regulation and corporate governance.

The financial economics major requires 26 points in economics, 6 points in mathematics, 3 points in statistics, 3 points in business, and 12 points from a list of selected courses for a total minimum of 50 points as follows:

### Economics Core Courses

All economics core courses

### Finance Core Courses \*

ECON UN3025	FINANCIAL ECONOMICS
ECON GU4280	CORPORATE FINANCE
BUSI UN3013	FINANCIAL ACCOUNTING

\*NOTE: The department considers BUSI UN3013, IEOR E2261 and ECON UN2261 as overlapping courses. Students who take these three courses shall be credited with one course only. Financial economics majors who are also in the Business Management concentration program (CNBUMG) must take an additional elective from either the financial economics prescribed elective list (below) or from the CNBUMB prescribed list.

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Electives

Select four of the following, of which two must be from the Columbia or Barnard economics departments, or equivalent economics transfer credits:

ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON UN3265	MONEY AND BANKING
ECON UN3901	ECONOMICS OF EDUCATION
ECON UN3952	MACROECONOMICS#FORMATION OF EXPECTATIONS
ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
ECON GU4213	ADVANCED MACROECONOMICS
ECON GU4251	INDUSTRIAL ORGANIZATION
ECON GU4260	MARKET DESIGN
ECON GU4412	ADVANCED ECONOMETRICS
ECON GU4415	GAME THEORY
or ECON BC3080	Applied Game Theory
ECON GU4465	PUBLIC ECONOMICS
or ECON BC3026	Economics of the Public Sector
ECON GU4500	INTERNATIONAL TRADE
or ECON BC3047	International Trade
ECON GU4505	INTERNATIONAL MACROECONOMICS
or ECON BC3038	INTERNATIONAL MONEY # FINANCE
ECON G4526	Transition Reforms, Globalization and Financial Crisis
ECON GU4615	LAW AND ECONOMICS
ECON GU4630	Climate Finance
ECON GU4700	FINANCIAL CRISES
ECON GU4710	FINANCE AND THE REAL ECONOMY
ECON GU4840	BEHAVIORAL ECONOMICS
or ECON BC3048	Introduction to Behavioral Economics
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
ECON GU4860	BEHAVIORAL FINANCE
BIOT GU4180	ENTREPRENEURSHIP IN BIOTECH
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON BC3043	Monetary Theory # Policy
BUSI UN3021	MARKETING MANAGEMENT
BUSI UN3701	STRATEGY FORMULATION

BUSI UN3702	VENTURING TO CHANGE THE WORLD
BUSI UN3703	LEADERSHIP IN ORGANIZATION
BUSI UN3704	Making History Through Venturing
COMS W1002	COMPUTING IN CONTEXT
HIST W2904	History of Finance
IEOR E4106	STOCHASTIC MODELS
IEOR E4700	INTRO TO FINANCIAL ENGINEERING
MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GR5010	INTRO TO THE MATH OF FINANCE
POLS UN3630	POLITCS OF INTL ECON RELATIONS
STAT W3201	Math Finance in Continuous Time
STAT GU4261	STATISTICAL METHODS IN FINANCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance

### Seminar

The seminar must be chosen from a list of seminars eligible for the financial economics major. The department indicates which seminars are eligible for the major on the Senior Seminars page of the departmental website.

Students must have completed at least one of ECON UN3025 or ECON GU4280 prior to taking their senior seminar.

- \* 1) Students must complete the finance core no later than fall of their senior year. 2) At least one of the core finance courses, ECON UN3025 and ECON GU4280, must be taken at Columbia.

## Major in Economics-Mathematics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The major in economics and mathematics provides students with a grounding in economic theory comparable to that provided by the general economics major and exposes students to rigorous and extensive training in mathematics. The program is recommended for any student planning to do graduate work in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Mathematics has an assigned adviser with whom students may consult on mathematics requirements. The economics adviser can only advise on economics requirements; the mathematics adviser can only advise on mathematics requirements.

The economics-mathematics major requires a total of 52 or 56 points (depending on mathematics sequence) : 29 points in economics and 23-27 points in mathematics and statistics as follows:

### Economics Core Courses

All economics core courses

### Economics Electives

Select three electives at the 3000-level or above

### Mathematics

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

Note: Students who take MATH UN1205 may not receive credit for both MATH UN1201 and MATH UN1202.

Analysis requirement:

MATH UN2500	ANALYSIS AND OPTIMIZATION
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Select three of the following:

MATH UN1202	CALCULUS IV
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS

Any mathematics course at the 3000-level or above

Note: Students who take MATH UN1205 will not receive credit for MATH UN1202.

#### Statistics

Select one of the following sequences:

STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS
STAT GU4203 & STAT GU4204	PROBABILITY THEORY and STATISTICAL INFERENCE

#### Economics Seminar

Select an economics seminar

#### NOTE:

1. Students who fulfill the statistics requirement with STAT GU4203 and STAT GU4204, may count STAT GU4203 or STAT GU4204 as one of the three required mathematics electives.
2. Students who choose the one year sequence (STAT GU4203/ STAT GU4204), must complete the year long sequence *prior* to taking ECON UN3412. Students receive elective credit for the probability course.

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## Major in Economics-Philosophy

Please read **Required Coursework for all Programs** above. Checklists for all programs are available on our website.

Economics-philosophy is an interdisciplinary major that introduces students to basic methodologies of economics and philosophy and stresses areas of particular concern to both, e.g. rationality and decision making, justice and efficiency, freedom and collective choice, logic of empirical theories and testing. Many issues are dealt with historically. Classic texts of Plato, Kant, Mill, Marx, and Smith are reviewed.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Philosophy has an assigned adviser with whom students may consult on philosophy requirements. The economics adviser can only advise on economics requirements; the philosophy adviser can only advise on philosophy requirements.

The economics-philosophy major requires a total minimum of 54 points: 25 points in economics, 16 points in philosophy, 6 points in mathematics, 3 points in statistics, and 4 points in the interdisciplinary seminar as follows:

#### Economics Core Courses

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS

#### Mathematics

Select a mathematics sequence

#### Statistics

Select a statistics course

#### Economics Electives

Three Electives are required; two must be selected from the below list, and the remaining elective may be any economics elective at the 3000-level or above.

ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
ECON UN3901	ECONOMICS OF EDUCATION
ECON GU4211	ADVANCED MICROECONOMICS
ECON GU4213	ADVANCED MACROECONOMICS

ECON GU4228	URBAN ECONOMICS
ECON GU4230	ECONOMICS OF NEW YORK CITY
ECON GU4235	HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes
or ECON BC3041	THEORETICAL FOUNDATIONS-POLIT ECON
ECON GU4260	MARKET DESIGN
ECON GU4301	ECONOMIC GROWTH # DEVELOPMENT I
ECON GU4321	ECONOMIC DEVELOPMENT
or ECON BC3029	EMPIRICAL APPROACHES DEVELOPMENT
ECON GU4370	POLITICAL ECONOMY
ECON GU4400	LABOR ECONOMICS
or ECON BC3019	LABOR ECONOMICS
ECON GU4415	GAME THEORY
or ECON BC3080	Applied Game Theory
ECON GU4438	ECONOMICS OF RACE IN THE U.S.
ECON GU4465	PUBLIC ECONOMICS
or ECON BC3026	Economics of the Public Sector
ECON GU4480	GENDER # APPLIED ECONOMICS
ECON GU4500	INTERNATIONAL TRADE
or ECON BC3047	International Trade
ECON GU4615	LAW AND ECONOMICS
ECON GU4625	ECONOMICS OF THE ENVIRONMENT
or ECON BC3039	Environmental and Natural Resource Economics
ECON GU4630	Climate Finance
ECON GU4750	GLOBALIZATION # ITS RISKS
ECON GU4840	BEHAVIORAL ECONOMICS
or ECON BC3048	Introduction to Behavioral Economics
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
ECON BC3011	INEQUALITY AND POVERTY
<b>Philosophy Courses</b>	
PHIL UN1010	METHODS/PROB OF PHILOS THOUGHT
PHIL UN3411	SYMBOLIC LOGIC
PHIL UN3701	ETHICS
PHIL UN3551	PHILOSOPHY OF SCIENCE
or PHIL UN3960	EPISTEMOLOGY
PHIL GU4561	PROBABILITY # DECISION THEORY
<b>Seminar</b>	
ECPH GU4950	ECONOMICS # PHILOSOPHY

**Students who declared before Spring 2014:** The requirements for this program were modified in 2014. Students who declared this program before Spring 2014 should contact the director of undergraduate studies for the department in order to confirm their options for major requirements.

## Major in Economics–Political Science

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

Political economy is an interdisciplinary major that introduces students to the methodologies of economics and political science and stresses areas of particular concern to both. This program is particularly beneficial to students planning to do graduate work in schools of public policy and international affairs.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Political Science has an assigned adviser with whom students may consult on political science



requirements. The economics adviser can only advise on economics requirements; the political science adviser can only advise on political science requirements.

The economics–political science major requires a total of 59 points: 22 points in economics, 17 points in political science, 6 points in mathematics, 6 points in statistical methods, 4 points in a political science seminar, and 4 points in the interdisciplinary seminar as follows.

The political science courses are grouped into four areas, i.e. subfields: (1) American Politics, (2) Comparative Politics, (3) International Relations, and (4) Political Theory. For the political science part of the major, students are required to select one area as a major subfield and one as a minor subfield. The corresponding introductory courses in both subfields must be taken, plus two electives in the major subfield, and one in the minor subfield.

### Economics Core Courses

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON GU4370	POLITICAL ECONOMY

### Mathematics

Select a mathematics sequence

### Statistical Methods

STAT UN1201	CALC-BASED INTRO TO STATISTICS
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Select one of the following:

ECON UN3412	INTRODUCTION TO ECONOMETRICS
POLS GU4712	PRINC OF QUANT POL RESEARCH 2

### Economics Electives

Select two electives (6 points) at the 3000-level or above

### Political Science Courses

Students must choose a Primary Subfield and a Secondary Subfield to study. The subfields are as follows: American Politics (AP), Comparative Politics (CP), International Relations (IR), and Political Theory (PT).

Primary Subfield: Minimum three courses, one of which must be the subfield's introductory course.

Secondary Subfield: Minimum two courses, one of which must be the subfield's introductory course.

### Seminars

Students must take the following two seminars:

ECPS GU4921	SEMINAR IN POLITICAL ECONOMICS
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and a Political Science Department seminar, in the student's Primary Subfield. Please select one of the following: \*

POLS UN3911	SEMINAR IN POLITICAL THEORY
or POLS UN3912	SEMINAR IN POLITICAL THEORY
POLS UN3921	AMERICAN POLITICS SEMINAR
or POLS UN3922	AMERICAN POLITICS SEMINAR
POLS UN3951	COMPARATIVE POLITICS SEMINAR
or POLS UN3952	Seminar in Comparative Politics
POLS UN3961	INTERNATIONAL POLITICS SEMINAR
or POLS UN3962	INTERNATIONAL POLITICS SEMINAR

- Students who wish to count toward the political science seminar requirement a course that is not in the above list of approved seminars must obtain permission from the political science Director of Undergraduate studies. Barnard colloquia can count for seminar credit only with the written permission of the Director of Undergraduate Studies. Note that admission to Barnard colloquia is by application to the Barnard political science department only.

## Major in Economics-Statistics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The major in economics-statistics provides students with a grounding in economic theory comparable to that provided by the general economics major, but also exposes students to a significantly more rigorous and extensive statistics training than

is provided by the general major. This program is recommended for students with strong quantitative skills and for those contemplating graduate studies in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Statistics has an assigned adviser with whom students may consult on statistics requirements. The economics adviser can only advise on economics requirements; the statistics adviser can only advise on statistics requirements.

The economics-statistics major requires a total of 59 points: 29 in economics, 15 points in statistics, 12 points in mathematics, 3 points in computer science as follows:

### Economics Core Courses

All economics core courses

### Economics Electives

Select three electives at the 3000-level or above

### Mathematics

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

### Statistics

STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS

One elective in statistics from among courses numbered STAT GU 4206 through GU 4266.

### Computer Science

Select one of the following:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
COMS W1007	
ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
STAT UN2102	Applied Statistical Computing

### Economics Seminar

ECON GU4918	SEMINAR IN ECONOMETRICS
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**Students who declared before Spring 2014:** The requirements for this program were modified in 2014. Students who declared this program before Spring 2014 should contact the director of undergraduate studies for the department in order to confirm their options for major requirements.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Economics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The economics concentration requires a minimum of 25 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of at least 34 points as follows:

**Economics Core Courses**

All economics core courses

**Mathematics**

Select a mathematics sequence

**Statistics**

Select a Statistics course

**Economics Electives**

Select at least three electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

## ECONOMICS - MATHEMATICS

### ECONOMICS DEPARTMENT:

Department Website: <https://econ.columbia.edu>

Office Location: 1022 International Affairs Building

Office Contact: 212-854-3680, [econ-info@columbia.edu](mailto:econ-info@columbia.edu)Director of Undergraduate Studies: Dr. Susan Elmes, 1006 International Affairs Building; 212-854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)Undergraduate Coordinator: Laura Yan, [ly38@columbia.edu](mailto:ly38@columbia.edu)

### THE STUDY OF ECONOMICS

Economics is the study of the ways in which society allocates its scarce resources among alternative uses and the consequences of these decisions. The areas of inquiry deal with a varied range of topics such as international trade, domestic and international financial systems, labor market analysis, and the study of less developed economies. Broadly speaking, the goal of an economics major is to train students to think analytically about social issues and, as such, provide a solid foundation for not only further study and careers in economics, but also for careers in law, public service, business, and related fields.

The Economics Department offers a general economics major in addition to five interdisciplinary majors structured to suit the interests and professional goals of a heterogeneous student body. All of these programs have different specific requirements but share the common structure of core theoretical courses that provide the foundation for higher-level elective courses culminating in a senior seminar. Students are urged to carefully look through the details of each of these programs and to contact an appropriate departmental advisor to discuss their particular interests.

### STUDENT ADVISING

The Department of Economics offers a variety of advising resources to provide prospective and current undergraduate majors and concentrators with the information and support needed to successfully navigate through the program. These resources are described below.

#### Consulting Advisors

For answers to the most common questions that students have about the majors, the department has graduate student advisors, who are available by e-mail at [econ-advising@columbia.edu](mailto:econ-advising@columbia.edu), or during weekly office hours to meet with students.

Students should direct all questions and concerns about any economic program to the graduate student advisors either in person or via e-mail. The graduate student advisors can discuss major requirements, scheduling, and major course selection, as well as review student checklists and discuss progress in the major. Occasionally, graduate student advisors may refer a student to someone else in the department (such as the director of undergraduate studies) or in the student's school for additional advising.

Contact information and office hours for the graduate student advisors are posted on the Advisors page [Advisors page](#) of the departmental website in the week prior to the beginning of the semester. Students considering one of the interdepartmental majors should speak to both a graduate student advisor from the Economics Department and the advisor from the other department early in the sophomore year.

## Faculty Advisors

Faculty advisors are available only to declared majors. They are able to discuss students' academic and career goals, both in terms of the undergraduate career and post-graduate degrees and research. Students wishing to discuss these types of substantive topics may request a faculty advisor by completing the google form available on the [Advisors page](#) of the departmental website.

The department does its best to match students with faculty members that share similar academic interests. While faculty advisors do not discuss major requirements—that is the role of the graduate student advisors—they do provide guidance in course selection as it relates to meeting a student's intellectual goals and interests, as well as advise on career and research options. It is recommended that students who plan on attending a Ph.D. program in economics or are interested in pursuing economics research after graduation request a faculty advisor.

## Enrolling in Classes

### Prerequisites

The Department strictly enforces all course prerequisites. Prerequisite courses cannot be taken concurrently with or after the course—they must be taken before the course. Students who take a course out of sequence (before or concurrently with its prerequisites) will not be allowed to count those credits towards the completion of their major, and consequently will be required to take an additional course to replace those credits. For placement in the calculus sequence, please consult the Math department's section of the Bulletin. The list of Prerequisites for Econ courses can be found on the [Course Prerequisites](#) page of the Dept. website.

### Registration for Restricted Classes

Most lecture courses are open to online Registration. However, Seminars, Research Courses, Independent Study and Corporate Finance are restricted. Information regarding Seminar Registration can be found on the [Senior Seminar Registration](#) page. Registration information for Research Course credit, Independent Study and Corporate Finance can be found on the [Registration Information](#) page.

## Preparing for Graduate Study

On the [Preparing for Graduate School](#) page on our website, you will find general advice for students thinking about pursuing a PhD in economics. All students who are considering graduate work should review the material posted there. Since graduate work requires more mathematical and statistical training than the economics major, students interested in graduate work should speak with econ-advising about planning their course schedule.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

AP tests must be taken in both microeconomics and macroeconomics, with a score of 5 on one test and at least a 4 on the other. Provided that this is achieved, the department grants 4 credits for a score of 4 and 5 on the AP Economics exam along with exemption from [ECON UN1105 PRINCIPLES OF ECONOMICS](#).

### IB Credit or GCE A Level Exams

If you took the IB Exam and received either a 6 or a 7 or if you took GCE A Level Exams and received an A or a B, then you will receive credit from the college. Those credits will automatically exempt you from the Principles requirement.

## Barnard College Courses

Barnard Economics Core Courses and seminars do NOT count towards the Columbia Economics Major or concentration. Specifically, the following courses will NOT count toward your major program:

[ECON BC1003](#), [ECON BC1007](#), [ECON BC2411](#), [ECON BC3018](#), [ECON BC3033](#), [ECON BC3035](#).

The Barnard courses listed below will count as Electives toward your Economics Major provided you have completed the course prerequisites, have not taken an equivalent course in the Columbia Department, and have fulfilled the minimum requirement of taking 5 lecture courses in the Columbia Department.

**Economics (Barnard)**

ECON BC2010	The Economics of Gender
ECON BC2012	Economic History of Western Europe
ECON BC2017	INTRODUCTION TO HEALTH ECONOMICS
ECON BC2020	Introduction to Development Economics
ECON BC2075	Logic and Limits of Economic Justice
ECON BC2224	CODING MARKETS
ECON BC3010	American Wellbeing
ECON BC3011	INEQUALITY AND POVERTY
ECON BC3012	THE ECONOMICS OF EDUCATION
ECON BC3013	Economic History of the United States
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON BC3019	LABOR ECONOMICS
ECON BC3027	Economics of Inequality
ECON BC3022	Economic History of Europe
ECON BC3023	Topics in Economic History
ECON BC3024	MIGRATION # ECONOMIC CHANGE
ECON BC3026	Economics of the Public Sector
ECON BC3029	EMPIRICAL APPROACHES DEVLPMNT
ECON BC3031	Economics of Life
ECON BC3038	INTERNATIONAL MONEY # FINANCE
ECON BC3039	Environmental and Natural Resource Economics
ECON BC3041	THEORETICAL FOUNDATIONS-POLIT ECON
ECON BC3045	BUSINESS CYCLES
ECON BC3047	International Trade
ECON BC3049	Economic Evaluation of Social Programs
ECON BC3270	Topics in Money and Finance
ECON UN3025	FINANCIAL ECONOMICS
ECON UN3265	MONEY AND BANKING

**NOTES:**

1) ECON UN2261 Accounting and Finance for Economics does NOT count as an economics elective. Financial Economics majors may take this course to fulfill their accounting requirement.

2) The above list is not necessarily complete. Barnard Department on occasion adds new lecture courses. If you have a question about a Barnard elective course not listed above, then you should contact [econ-advising@columbia.edu](mailto:econ-advising@columbia.edu).

**Transfer Courses**

Any courses taken outside of the Economics Departments at Columbia or Barnard that you would like to apply towards the completion of your economics degree must be approved by the Department of Economics in addition to approval by your school. All majors and joint majors are required to take a minimum of 5 lecture courses from the Columbia Department of Economics and must take their senior seminar at Columbia.

See the [Transfer Credit Information](#) page for details on which courses may be eligible for transfer credit, as well as information on how to apply for transfer credit. Please read the information carefully before submitting your materials for review.

**Study Abroad Courses**

All students who plan to study abroad must contact Sunil Gulati during the prior semester to get preliminary approval for any economics courses that they intend to take abroad. Students should also review the information posted on the [Transfer Credit Information](#) page for details regarding which courses may be eligible.



## Summer Courses

All students who hope to take classes in the Summer outside of Columbia University must also contact Sunil Gulati in advance to get preliminary approval for any economics courses. Note that students must also have approval from their school to take Summer courses outside of Columbia.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

All majors write a research paper in either a senior seminar or in the honors seminar. Each semester the department offers a wide range of senior seminars (see [Senior Seminar Descriptions](#) for the seminars currently on offer). Seminars are small, discussion-based courses focused on a research topic in economics. Students are expected to attend and participate in these courses, as well as to write an original research paper. Registration information for senior seminars is available on the [Senior Seminar Registration](#) page. Some students will write a senior thesis in the Honors Seminar. Details about writing a senior thesis are below.

### Senior Thesis Coursework and Requirements

#### SENIOR HONORS THESIS

##### Honors Seminar

The honors seminar is a full-year course, and you will not receive a grade until you have completed both semesters. Completing both semesters satisfies your seminar requirement in the economics department. If you do not complete both semesters, however, you must take a senior seminar to graduate as a major. For details see the Senior Honors Thesis info on the [Honors and Prizes](#) page.

Students who successfully complete the Honors Seminar are eligible to graduate with departmental honors in economics.

### Undergraduate Research Outside of Courses

During the academic year, students may work as an RA with a faculty member or PhD student and receive 1 – 2 credits of either ECON GU4996 Research Credit or ECON GU4995 Research Credit (GU 4995 is for GS students only). Research positions typically entail an average of 3 hours of work per week per credit. Research credit may not be used as a substitute for elective or seminar requirements in the major and students will receive a letter grade for their work. Students considering graduate work or writing a senior thesis in economics should take one or more RA positions during their time at Columbia. Information on Research Credit (GU4995 and GU4996) is posted on the [Opportunities](#) page. Available RA positions are posted every semester on our WIKI page, [Econ Info For Students](#) (log-in required).

## DEPARTMENT HONORS AND PRIZES

### Departmental Honors

Economics majors and economics joint majors who wish to be considered for departmental honors in economics must:

1. Have at least a 3.7 GPA in their major courses;
2. Take ECON GU4999 Senior Honors Thesis Workshop (a one-year course);
3. Receive at least a grade of A- in ECON GU4999 Senior Honors Thesis Workshop.

Students must apply for admission to GU4999 and details regarding that application are included in the annual Summer Mailing sent to all students with a declared program in economics. Please note that ECON GU4999 Senior Honors Thesis Workshop may be taken to fulfill the seminar requirement for the economics major and all economics joint majors. Normally no more than 10% of graduating majors receive departmental honors in a given academic year. Please see the [Honors and Prizes](#) page on the department's website for more information.

### Undergraduate Prizes

All prize recipients are announced at the end of the spring semester each academic year.

**Sanford S. Parker Prize**

Established in 1980, this prize is awarded annually to a Columbia College graduating student who majored or concentrated in economics and plans on continuing his or her studies in an economics Ph.D. program within the two years following his or her graduation.

**Romine Prize**

Established in 1997, this prize is awarded annually to two students (Columbia College or General Studies) majoring in economics: one for the best honors thesis paper, and the other for the best economics seminar paper.

**Summer Research Prizes***Parker Summer Research Fellowship*

The Parker Summer Fellowship provides financial support for five Columbia College underclassmen who take unpaid summer internships that focus on research. Preference is given to students working with Columbia researchers but all CC students undertaking a summer research position are eligible to apply.

*GS Prize for Summer Research*

The GS Summer Fellowship provides financial support for 2 GS underclassmen who take unpaid summer internships that focus on research. Preference is given to students working with Columbia researchers but all GS students undertaking a summer research position are eligible to apply.

**OTHER IMPORTANT INFORMATION****Online Information**

Students can access useful information online, including but not limited to: a comprehensive FAQ page; transfer credit information; sample programs and checklists; faculty office hours, contact information and fields of specialization; advisor contact information; teaching and research assistant opportunities; a list of tutors; and current course offerings.

Posted on our [Announcements](#) page are links to the most important memos that we distribute to our majors including pre-registration mailings, the summer mailing and information for new majors. Our [WIKI](#) page has information about opportunities both inside and outside of the department. Login is required to access the WIKI page.

**Frequently Asked Questions**

As a first step, students are encouraged to visit the Dept.'s [FAQ page](#), which provides comprehensive information and answers to the most frequently-asked questions about the departmental majors and requirements. This page also includes a section that answers specific questions of first-year students, sophomores, and non-majors.

**PROFESSORS**

Douglas Almond (also School of International and Public Affairs)

Jushan Bai

Jagdish N. Bhagwati

Sandra Black (also School of International and Public Affairs)

Alessandra Casella (also Political Science Department)

Yeon-Koo Che

Pierre-André Chiappori

Graciela Chichilnisky

Richard Clarida (also School of International and Public Affairs)

Donald Davis

Prajit Dutta

Gautam Gowrisankaran

Harrison Hong

R. Glenn Hubbard (also Business School)

Navin Kartik

Wojciech Kopczuk (also School of International and Public Affairs)  
 Sokbae (Simon) Lee  
 Qingmin Liu  
 Suresh Naidu (also School of International and Public Affairs)  
 Serena Ng  
 Brendan O'Flaherty  
 Andrea Prat (also Business School)  
 Jeffrey Sachs (also Earth Institute, School of International and Public Affairs, Dept of Health Policy and Management)  
 Xavier Sala-i-Martin  
 Bernard Salanié  
 José A. Scheinkman  
 Stephanie Schmitt-Grohé  
 Joseph Stiglitz (also Business School, School of International and Public Affairs)  
 Martín Uribe  
 Miguel Urquiola (also School of International and Public Affairs)  
 Eric Verhoogen (also School of International and Public Affairs)  
 Ebonya Washington (also School of International and Public Affairs)  
 David Weinstein  
 Michael Woodford (Chair)

## ASSOCIATE PROFESSORS

Mark Dean  
 Lena Edlund  
 Jennifer La'O

## ASSISTANT PROFESSORS

Hassan Afrouzi  
 Michael Best  
 Matthieu Gomez  
 Emilien Gouin-Bonenfant  
 Elliot Lipnowski  
 Neomie Pinardon-Touati  
 Evan Sadler  
 Pietro Tebaldi  
 Jack Willis

## LECTURERS

Irasema Alonso  
 Isaac Bjorke  
 Tri Vi Dang  
 Susan Elmes  
 Seyhan Erden  
 Tamrat Gashaw  
 Sunil Gulati  
 Waseem Noor

## ADJUNCT FACULTY

Qi Ge  
 Claudia Halbac  
 Karla Hoff  
 Caterina Musatti

## ON LEAVE

Prof. Willis (2023-2024)

Profs. Che, Gouin-Bonenfant, Hong, Lipnowski, Sadler, Washongton *Fall 2023*)

Profs. Casella, Schmitt-Grohe (*Spring 2024*)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

There are a number of resources to assist you in planning your program in economics.

- [Checklists](#) for all programs are available on our website.
- [Econ-advising](#) is available to assist all students with academic planning. They can be reached by email or in person during their office hours.
- Tentative annual course offerings are posted on the [website](#) and in departmental newsletters.
- Information for new students is posted on the [Academic Resources Fair](#) page.

### Course Numbering Structure

All economics programs begin with an introductory 1000 level course (Principles of Economics) and progress through the required 3000 level required core economics courses (Intermediate Micro, Intermediate Macro and Econometrics). Most elective courses are offered at the 3000 and 4000 level and all require that students have completed at least UN 3211 Int Micro and UN 3213 Int Macro. The department offers a limited number of 2000 level electives and these courses only require that students have completed Principles of Economics.

### Guidance for First-Year Students

Our [Academic Resources Fair](#) page has answers to the most common questions of new students at Columbia. On that page you will find information about advising, placement, course planning, opportunities in the department and much more. If you are interested in pursuing economics, then it is strongly recommended that you read through the information posted here.

### Guidance for Transfer Students

Our [Academic Resources Fair](#) page has answers to the most common questions of transfer students at Columbia. On that page you will find information about advising, placement, course planning, opportunities in the department and much more. If you are interested in pursuing economics, then it is strongly recommended that you read through the information posted here.

The [Transfer Credit](#) page has all of the information that you will need to apply for transfer credits for economics courses that you have taken elsewhere. Note that the economics department will also review your transfer credits for calculus I, statistics and accounting courses. Details about all of these courses are also posted at Transfer Credit Information.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

#### Checklists and Requirements

Checklists and Requirement information are available on the [Department website](#).

#### Economics Core Courses

**All** of the core courses must be completed **no later than the spring semester** of the student's **junior year** and must be taken at Columbia. *Students who take any core course during the fall semester of their senior year must obtain written permission*

from the department's director of undergraduate studies. Unless otherwise specified below, all students must complete the following core courses:

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS

### Prerequisites

Course prerequisites are strictly enforced. Prerequisites must be taken before the course, not after or concurrently.

Economics courses taken before the completion of any of its prerequisites, even with instructor approval, are **not** counted toward the major, concentration, or interdepartmental majors. Exemptions from a prerequisite requirement may only be made, in writing, by the department's director of undergraduate studies. Credits from a course taken *prior* to the completion of its prerequisites are **not** counted towards the major requirements. As a consequence, students are required to complete **additional**, specific courses in economics at the direction of the director of undergraduate studies.

The prerequisites for required courses are as follows:

Course	Prerequisites
ECON UN1105 PRINCIPLES OF ECONOMICS	None
MATH UN1101 CALCULUS I	
STAT UN1201 CALC-BASED INTRO TO STATISTICS	MATH UN1101 CALCULUS I
ECON UN3211 INTERMEDIATE MICROECONOMICS	ECON UN1105 PRINCIPLES OF ECONOMICS MATH UN1201 CALCULUS III or UN1205
ECON UN3213 INTERMEDIATE MACROECONOMICS	ECON UN1105 PRINCIPLES OF ECONOMICS MATH UN1101 CALCULUS I Co-requisite: MATH UN1201 CALCULUS III or UN1205
ECON UN3412 INTRODUCTION TO ECONOMETRICS	MATH UN1201 CALCULUS III or UN1205 ECON UN3211 INTERMEDIATE MICROECONOMICS or UN3213 STAT UN1201 CALC-BASED INTRO TO STATISTICS
ECON 2000-level electives	ECON UN1105 PRINCIPLES OF ECONOMICS
ECON GU4211 ADVANCED MICROECONOMICS	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS MATH UN2010 LINEAR ALGEBRA Corequisites: MATH UN2500 ANALYSIS AND OPTIMIZATION or GU4061
ECON GU4412 ADVANCED ECONOMETRICS	ECON UN3211 INTERMEDIATE MICROECONOMICS
ECON GU4213 ADVANCED MACROECONOMICS	ECON UN3213 INTERMEDIATE MACROECONOMICS
ECON GU4413 Econometrics of Time Series and Forecasting	ECON UN3412 INTRODUCTION TO ECONOMETRICS MATH UN2010 LINEAR ALGEBRA
ECON UN3025 FINANCIAL ECONOMICS	ECON UN3211 INTERMEDIATE MICROECONOMICS
ECON GU4020 ECON OF UNCERTAINTY # INFORMTN	ECON UN3213 INTERMEDIATE MACROECONOMICS
ECON GU4230 ECONOMICS OF NEW YORK CITY	STAT UN1201 CALC-BASED INTRO TO STATISTICS
ECON GU4260 MARKET DESIGN	
ECON GU4280 CORPORATE FINANCE	
ECON GU4370 POLITICAL ECONOMY	
ECON GU4700 FINANCIAL CRISES	
ECON GU4710 FINANCE AND THE REAL ECONOMY	
ECON GU4850 COGNITIVE MECH # ECON BEHAVIOR	



ECON GU4860 BEHAVIORAL FINANCE

All other ECON 3000- and 4000-level electives

ECON UN3901 ECONOMICS OF EDUCATION  
ECON UN3952 MACROECONOMICS#FORMATION OF  
EXPECTATIONS

ECON UN3981 APPLIED ECONOMETRICS

ECON GU4911 MICROECONOMICS SEMINAR

ECON GU4913 MACROECONOMICS SEMINAR

ECON GU4918 SEMINAR IN ECONOMETRICS

ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS

ECPH GU4950 ECONOMICS # PHILOSOPHY

Barnard electives

ECON UN3211 INTERMEDIATE MICROECONOMICS  
ECON UN3213 INTERMEDIATE MACROECONOMICS  
ECON UN3412 INTRODUCTION TO ECONOMETRICS  
(Co-requisite)ECON UN3211 INTERMEDIATE MICROECONOMICS  
ECON UN3213 INTERMEDIATE MACROECONOMICSECON UN3211 INTERMEDIATE MICROECONOMICS  
ECON UN3213 INTERMEDIATE MACROECONOMICS  
ECON UN3412 INTRODUCTION TO ECONOMETRICSECON UN3211 INTERMEDIATE MICROECONOMICS  
ECON UN3213 INTERMEDIATE MACROECONOMICS  
ECON UN3412 INTRODUCTION TO ECONOMETRICS  
ECON GU4370 POLITICAL ECONOMYECON UN3211 INTERMEDIATE MICROECONOMICS  
ECON UN3213 INTERMEDIATE MACROECONOMICS  
ECON UN3412 INTRODUCTION TO ECONOMETRICS

See Barnard bulletin

It is **strongly recommended** that students take ECON UN3412 INTRODUCTION TO ECONOMETRICS in the semester **immediately** following the completion of the statistics course.

### Grading

No course with a grade of D or lower, including calculus and statistics courses, can count toward the major, concentration, or interdepartmental majors. Economics core courses with a grade of D or F must be retaken and completed with a grade of C- or better.

Students who receive a grade of D or F in a core course are permitted to take a higher-level elective course that has that core course as a prerequisite, so long as it is taken concurrently with the retaking of that core course. For example, if a student fails ECON UN3211 INTERMEDIATE MICROECONOMICS, the student must retake it and, in the same semester, may enroll in an elective course for which it is a prerequisite, provided that all other prerequisites for the elective have been completed. The same rule applies to the required math and statistics courses. For example, if a student fails *MATH UN1201 CALCULUS III*, the student may retake calculus III concurrently with *Intermediate Microeconomics*. Students who must retake any core economics or math course may not retake it concurrently with a senior seminar; the economics core courses *ECON UN3211 INTERMEDIATE MICROECONOMICS*, *ECON UN3213 INTERMEDIATE MACROECONOMICS*, and *ECON UN3412 INTRODUCTION TO ECONOMETRICS* must be successfully completed before a student may enroll in a seminar.

A grade of W is not equivalent to a grade of D or F; it does not qualify a student to retake the course concurrently with a higher level course that lists the course as a prerequisite. Students who receive a grade of W in a core course must complete the course with a grade of C- or better before taking a course that lists it as a prerequisite.

Only ECON UN1105 PRINCIPLES OF ECONOMICS may be taken for a grade of Pass/D/Fail, and the student must receive a grade of P for it to count towards the requirements for the major, concentration, or interdepartmental majors.

### Economics Electives

Only those courses identified in the Economics Department listings in this Bulletin may be taken for elective credit. All 3000-level or higher electives offered by the Economics Department have ECON UN3211 INTERMEDIATE MICROECONOMICS and ECON UN3213 INTERMEDIATE MACROECONOMICS as prerequisites. However, some electives have additional prerequisites and students should ensure that all prerequisites have been completed (see the table of prerequisites printed above). *Seminars do not count as electives.*

### Seminars

Seminars can be taken only after all of the required core courses in economics have been successfully completed. Students may not take or re-take ECON UN3211 INTERMEDIATE MICROECONOMICS, ECON UN3213 INTERMEDIATE MACROECONOMICS, or ECON UN3412 INTRODUCTION TO ECONOMETRICS concurrently with any senior seminar. *Seminars do not count as electives.* Each seminar is limited to sixteen students, with priority given to seniors. For ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS and ECPH GU4950 ECONOMICS # PHILOSOPHY, priority is given to economics-political science and economics-philosophy majors, respectively.

For seminar registration details, read the information posted on the department's *Senior Seminar Registration* page: <http://econ.columbia.edu/senior-seminars-registration>.

## Mathematics

Students must consult with the Mathematics Department for the appropriate placement in the calculus sequence. Students must complete one of the following sequences:

Select one of the following sequences:

MATH UN1101 & MATH UN1201	CALCULUS I and CALCULUS III
MATH UN1101 & MATH UN1205	CALCULUS I and ACCELERATED MULTIVARIABLE CALC
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

In addition:

1. Students who receive a grade of D or F in MATH UN1201 CALCULUS III or MATH UN1205 must retake the course, but may enroll in ECON UN3211 INTERMEDIATE MICROECONOMICS.
2. Students who receive a grade of D or F in MATH UN1207 HONORS MATHEMATICS A may either retake the course, or take MATH UN1201 CALCULUS III or MATH UN1205, and enroll in ECON UN3211 INTERMEDIATE MICROECONOMICS concurrently.

## Statistics

Unless otherwise specified below, all students must take STAT UN1201 CALC-BASED INTRO TO STATISTICS, or a higher level course, such as STAT GU4204 STATISTICAL INFERENCE, or STAT GU4001.

## Barnard Courses

A limited number of Barnard economics electives may count toward the major, concentration, and interdepartmental majors. Students should pay careful attention to the limit of Barnard electives indicated in their program requirements. Please see the *Transfer Credit* section below for information on the number of Barnard electives that may be taken to fulfill major requirements. In addition, students may receive credit for the major, concentration, and interdepartmental majors only for those Barnard economics courses listed in this Bulletin. However, students may not receive credit for two courses whose content overlaps. Barnard and Columbia economics electives with overlapping content include but are not limited to:

ECON BC3029 & ECON GU4321	EMPIRICAL APPROACHES DEVLPMNT and ECONOMIC DEVELOPMENT
ECON BC3038 & ECON GU4505	INTERNATIONAL MONEY # FINANCE and INTERNATIONAL MACROECONOMICS
ECON BC3019 & ECON GU4400	LABOR ECONOMICS and LABOR ECONOMICS
ECON BC3047 & ECON GU4500	International Trade and INTERNATIONAL TRADE
ECON BC3039 & ECON GU4625	Environmental and Natural Resource Economics and ECONOMICS OF THE ENVIRONMENT
ECON BC3041 & ECON GU4235	THEORETICAL FOUNDATIONS-POLIT ECON and HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes
ECON GU4400	LABOR ECONOMICS

ECON GU4235

HISTORICAL FOUNDATIONS OF MODERN ECONOMICS:  
Adam Smith to J M Keynes

Students should always first consult with *econ-advising* to confirm that the Barnard elective they wish to take does not overlap with a Columbia elective that they have already taken or plan to take. Students may *not* take the Barnard core economics, math, statistics, or seminar courses for credit towards the completion of major requirements.

### School of Professional Studies Courses

The Department of Economics does not accept *any* of the courses offered through the School of Professional Studies for credit towards the economics major, concentration, or interdepartmental majors with the exception of the courses offered by the Economics Department during the summer session at Columbia.

### Other Department and School Courses

Please note that with the exception of the above Barnard courses and the specific courses listed below for the financial economics major, no other courses offered through the different departments and schools at Columbia count toward the economics majors or concentration.

### Transfer Credits

Students are required to take a minimum number of courses in the Columbia Economics Department. For all majors and interdepartmental majors, students must complete a minimum of *five* lecture courses in the Columbia department. Students may fulfill their remaining requirements for economics lecture courses through AP (or IB or GCE) credits, Barnard electives, transfer courses, and study abroad courses (the latter two are subject to the approval of the Economics Department). The following table summarizes the new rules:

Program	Number of required economics lecture courses	Minimum number which must be taken in the department	Maximum number of outside allowed
Economics major	9	5	4
Financial economics	8	5	3
Economics-mathematics	7	5	2
Economics-political science	7	5	2
Economics-statistics	7	5	2
Economics-philosophy	7	5	2
Economics concentration	7	4	3

1. **Lecture courses** do not include seminars, which must be taken in the Columbia Economics Department. The lecture course counts are counts of economics courses only and do **not** include math, statistics, or courses in other departments;
2. At least two of the three 3000-level economics core courses must be taken in the department and no corresponding Barnard courses are accepted. ECON UN3025 FINANCIAL ECONOMICS and ECON UN3265 MONEY AND BANKING are counted as departmental courses regardless of the instructor;
3. **Outside courses** include AP (or IB or GCE) credits, transfer credits, Barnard 2000- and 3000-level elective courses and transfer credits from other universities. In the case where two or more courses taken outside of Columbia are used as the equivalent of ECON UN1105 PRINCIPLES OF ECONOMICS, those courses are counted as one transfer course.
4. At least one of the core finance courses, ECON UN3025 FINANCIAL ECONOMICS and ECON GU4280 CORPORATE FINANCE, must be taken at Columbia.

**Approval of transfer credits** to fulfill economics requirements must be obtained in writing from the Department of Economics (see the [departmental website](#) or speak with your advising dean for information regarding applications for transfer credit). Approval is granted only for courses that are considered to be comparable to those offered at Columbia.

**Summer courses** taken at other institutions must be approved in writing by the department's transfer credit adviser before the course is taken. The department does not accept transfer credits for any 3000 level core courses taken during a summer session outside of Columbia University. Summer courses taken from the department of economics at Columbia University do not need approval.

**Guidelines and instructions** on how to request transfer credit approval can be found in the *Transfer Credit Information* page of the [departmental website](#).

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## Major in Economics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The economics major requires a minimum of 35 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of at least 44 points as follows:

### Economics Core Courses

All economics core courses

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Economics Electives

Select at least five electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

### Economics Seminar

Select one economics seminar course

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## Major in Financial Economics

Please read **Required Coursework for all Programs** above.

The Department of Economics offers the major in financial economics, which provides an academic framework to explore the role of financial markets and intermediaries in the allocation (and mis-allocation) of capital. Among the topics studied in financial economics are financial markets, banks and other financial intermediaries, asset valuation, portfolio allocation, regulation and corporate governance.

The financial economics major requires 26 points in economics, 6 points in mathematics, 3 points in statistics, 3 points in business, and 12 points from a list of selected courses for a total minimum of 50 points as follows:

### Economics Core Courses

All economics core courses

### Finance Core Courses \*

ECON UN3025	FINANCIAL ECONOMICS
ECON GU4280	CORPORATE FINANCE
BUSI UN3013	FINANCIAL ACCOUNTING

\*NOTE: The department considers BUSI UN3013, IEOR E2261 and ECON UN2261 as overlapping courses. Students who take these three courses shall be credited with one course only. Financial economics majors who are also in the Business Management concentration program (CNBUMG) must take an additional elective from either the financial economics prescribed elective list (below) or from the CNBUMB prescribed list.

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Electives

Select four of the following, of which two must be from the Columbia or Barnard economics departments, or equivalent economics transfer credits:

ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON UN3265	MONEY AND BANKING
ECON UN3901	ECONOMICS OF EDUCATION

ECON UN3952	MACROECONOMICS#FORMATION OF EXPECTATIONS
ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
ECON GU4213	ADVANCED MACROECONOMICS
ECON GU4251	INDUSTRIAL ORGANIZATION
ECON GU4260	MARKET DESIGN
ECON GU4412	ADVANCED ECONOMETRICS
ECON GU4415	GAME THEORY
or ECON BC3080	Applied Game Theory
ECON GU4465	PUBLIC ECONOMICS
or ECON BC3026	Economics of the Public Sector
ECON GU4500	INTERNATIONAL TRADE
or ECON BC3047	International Trade
ECON GU4505	INTERNATIONAL MACROECONOMICS
or ECON BC3038	INTERNATIONAL MONEY # FINANCE
ECON G4526	Transition Reforms, Globalization and Financial Crisis
ECON GU4615	LAW AND ECONOMICS
ECON GU4630	Climate Finance
ECON GU4700	FINANCIAL CRISES
ECON GU4710	FINANCE AND THE REAL ECONOMY
ECON GU4840	BEHAVIORAL ECONOMICS
or ECON BC3048	Introduction to Behavioral Economics
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
ECON GU4860	BEHAVIORAL FINANCE
BIOT GU4180	ENTREPRENEURSHIP IN BIOTECH
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON BC3043	Monetary Theory # Policy
BUSI UN3021	MARKETING MANAGEMENT
BUSI UN3701	STRATEGY FORMULATION
BUSI UN3702	VENTURING TO CHANGE THE WORLD
BUSI UN3703	LEADERSHIP IN ORGANIZATION
BUSI UN3704	Making History Through Venturing
COMS W1002	COMPUTING IN CONTEXT
HIST W2904	History of Finance
IEOR E4106	STOCHASTIC MODELS
IEOR E4700	INTRO TO FINANCIAL ENGINEERING
MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GR5010	INTRO TO THE MATH OF FINANCE
POLS UN3630	POLITCS OF INTL ECON RELATIONS
STAT W3201	Math Finance in Continuous Time
STAT GU4261	STATISTICAL METHODS IN FINANCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance

### Seminar

The seminar must be chosen from a list of seminars eligible for the financial economics major. The department indicates which seminars are eligible for the major on the Senior Seminars page of the departmental website.

Students must have completed at least one of ECON UN3025 or ECON GU4280 prior to taking their senior seminar.

- \* 1) Students must complete the finance core no later than fall of their senior year. 2) At least one of the core finance courses, ECON UN3025 and ECON GU4280, must be taken at Columbia.



## Major in Economics-Mathematics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The major in economics and mathematics provides students with a grounding in economic theory comparable to that provided by the general economics major and exposes students to rigorous and extensive training in mathematics. The program is recommended for any student planning to do graduate work in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Mathematics has an assigned adviser with whom students may consult on mathematics requirements. The economics adviser can only advise on economics requirements; the mathematics adviser can only advise on mathematics requirements.

The economics-mathematics major requires a total of 52 or 56 points (depending on mathematics sequence) : 29 points in economics and 23-27 points in mathematics and statistics as follows:

### Economics Core Courses

All economics core courses

### Economics Electives

Select three electives at the 3000-level or above

### Mathematics

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

Note: Students who take MATH UN1205 may not receive credit for both MATH UN1201 and MATH UN1202.

Analysis requirement:

MATH UN2500	ANALYSIS AND OPTIMIZATION
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Select three of the following:

MATH UN1202	CALCULUS IV
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS

Any mathematics course at the 3000-level or above

Note: Students who take MATH UN1205 will not receive credit for MATH UN1202.

### Statistics

Select one of the following sequences:

STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS
STAT GU4203 & STAT GU4204	PROBABILITY THEORY and STATISTICAL INFERENCE

### Economics Seminar

Select an economics seminar

NOTE:

1. Students who fulfill the statistics requirement with STAT GU4203 and STAT GU4204, may count STAT GU4203 or STAT GU4204 as one of the three required mathematics electives.
2. Students who choose the one year sequence (STAT GU4203/ STAT GU4204), must complete the year long sequence *prior* to taking ECON UN3412. Students receive elective credit for the probability course.

## Major in Economics-Philosophy

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

Economics-philosophy is an interdisciplinary major that introduces students to basic methodologies of economics and philosophy and stresses areas of particular concern to both, e.g. rationality and decision making, justice and efficiency, freedom and collective choice, logic of empirical theories and testing. Many issues are dealt with historically. Classic texts of Plato, Kant, Mill, Marx, and Smith are reviewed.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Philosophy has an assigned adviser with whom students may consult on philosophy requirements. The economics adviser can only advise on economics requirements; the philosophy adviser can only advise on philosophy requirements.

The economics-philosophy major requires a total minimum of 54 points: 25 points in economics, 16 points in philosophy, 6 points in mathematics, 3 points in statistics, and 4 points in the interdisciplinary seminar as follows:

### Economics Core Courses

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Economics Electives

Three Electives are required; two must be selected from the below list, and the remaining elective may be any economics elective at the 3000-level or above.

ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
ECON UN3901	ECONOMICS OF EDUCATION
ECON GU4211	ADVANCED MICROECONOMICS
ECON GU4213	ADVANCED MACROECONOMICS
ECON GU4228	URBAN ECONOMICS
ECON GU4230	ECONOMICS OF NEW YORK CITY
ECON GU4235	HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes
or ECON BC3041	THEORETICAL FOUNDATIONS-POLIT ECON
ECON GU4260	MARKET DESIGN
ECON GU4301	ECONOMIC GROWTH # DEVELOPMENT I
ECON GU4321	ECONOMIC DEVELOPMENT
or ECON BC3029	EMPIRICAL APPROACHES DEVELOPMENT
ECON GU4370	POLITICAL ECONOMY
ECON GU4400	LABOR ECONOMICS
or ECON BC3019	LABOR ECONOMICS
ECON GU4415	GAME THEORY
or ECON BC3080	Applied Game Theory
ECON GU4438	ECONOMICS OF RACE IN THE U.S.
ECON GU4465	PUBLIC ECONOMICS
or ECON BC3026	Economics of the Public Sector
ECON GU4480	GENDER # APPLIED ECONOMICS
ECON GU4500	INTERNATIONAL TRADE
or ECON BC3047	International Trade
ECON GU4615	LAW AND ECONOMICS
ECON GU4625	ECONOMICS OF THE ENVIRONMENT

or ECON BC3039	Environmental and Natural Resource Economics
ECON GU4630	Climate Finance
ECON GU4750	GLOBALIZATION # ITS RISKS
ECON GU4840	BEHAVIORAL ECONOMICS
or ECON BC3048	Introduction to Behavioral Economics
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
ECON BC3011	INEQUALITY AND POVERTY
<b>Philosophy Courses</b>	
PHIL UN1010	METHDS/PROB OF PHILOS THOUGHT
PHIL UN3411	SYMBOLIC LOGIC
PHIL UN3701	ETHICS
PHIL UN3551	PHILOSOPHY OF SCIENCE
or PHIL UN3960	EPISTEMOLOGY
PHIL GU4561	PROBABILITY # DECISION THEORY
<b>Seminar</b>	
ECPH GU4950	ECONOMICS # PHILOSOPHY

**Students who declared before Spring 2014:** The requirements for this program were modified in 2014. Students who declared this program before Spring 2014 should contact the director of undergraduate studies for the department in order to confirm their options for major requirements.

## Major in Economics–Political Science

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

Political economy is an interdisciplinary major that introduces students to the methodologies of economics and political science and stresses areas of particular concern to both. This program is particularly beneficial to students planning to do graduate work in schools of public policy and international affairs.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Political Science has an assigned adviser with whom students may consult on political science requirements. The economics adviser can only advise on economics requirements; the political science adviser can only advise on political science requirements.

The economics–political science major requires a total of 59 points: 22 points in economics, 17 points in political science, 6 points in mathematics, 6 points in statistical methods, 4 points in a political science seminar, and 4 points in the interdisciplinary seminar as follows.

The political science courses are grouped into four areas, i.e. subfields: (1) American Politics, (2) Comparative Politics, (3) International Relations, and (4) Political Theory. For the political science part of the major, students are required to select one area as a major subfield and one as a minor subfield. The corresponding introductory courses in both subfields must be taken, plus two electives in the major subfield, and one in the minor subfield.

### Economics Core Courses

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON GU4370	POLITICAL ECONOMY

### Mathematics

Select a mathematics sequence

### Statistical Methods

STAT UN1201	CALC-BASED INTRO TO STATISTICS
Select one of the following:	
ECON UN3412	INTRODUCTION TO ECONOMETRICS
POLS GU4712	PRINC OF QUANT POL RESEARCH 2

### Economics Electives

Select two electives (6 points) at the 3000-level or above

### Political Science Courses

Students must choose a Primary Subfield and a Secondary Subfield to study. The subfields are as follows: American Politics (AP), Comparative Politics (CP), International Relations (IR), and Political Theory (PT).

Primary Subfield: Minimum three courses, one of which must be the subfield's introductory course.

Secondary Subfield: Minimum two courses, one of which must be the subfield's introductory course.

### Seminars

Students must take the following two seminars:

ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS

and a Political Science Department seminar, in the student's Primary Subfield. Please select one of the following: \*

POLS UN3911 SEMINAR IN POLITICAL THEORY

or POLS UN3912 SEMINAR IN POLITICAL THEORY

POLS UN3921 AMERICAN POLITICS SEMINAR

or POLS UN3922 AMERICAN POLITICS SEMINAR

POLS UN3951 COMPARATIVE POLITICS SEMINAR

or POLS UN3952 Seminar in Comparative Politics

POLS UN3961 INTERNATIONAL POLITICS SEMINAR

or POLS UN3962 INTERNATIONAL POLITICS SEMINAR

- Students who wish to count toward the political science seminar requirement a course that is not in the above list of approved seminars must obtain permission from the political science Director of Undergraduate studies. Barnard colloquia can count for seminar credit only with the written permission of the Director of Undergraduate Studies. Note that admission to Barnard colloquia is by application to the Barnard political science department only.

## Major in Economics-Statistics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The major in economics-statistics provides students with a grounding in economic theory comparable to that provided by the general economics major, but also exposes students to a significantly more rigorous and extensive statistics training than is provided by the general major. This program is recommended for students with strong quantitative skills and for those contemplating graduate studies in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Statistics has an assigned adviser with whom students may consult on statistics requirements. The economics adviser can only advise on economics requirements; the statistics adviser can only advise on statistics requirements.

The economics-statistics major requires a total of 59 points: 29 in economics, 15 points in statistics, 12 points in mathematics, 3 points in computer science as follows:

### Economics Core Courses

All economics core courses

### Economics Electives

Select three electives at the 3000-level or above

### Mathematics

Select one of the following sequences:

MATH UN1101  
& MATH UN1102  
& MATH UN1201  
& MATH UN2010  
CALCULUS I  
and CALCULUS II  
and CALCULUS III  
and LINEAR ALGEBRA

MATH UN1101  
& MATH UN1102  
& MATH UN1205  
& MATH UN2010  
CALCULUS I  
and CALCULUS II  
and ACCELERATED MULTIVARIABLE CALC  
and LINEAR ALGEBRA

MATH UN1207  
& MATH UN1208

HONORS MATHEMATICS A  
and HONORS MATHEMATICS B

#### Statistics

STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS

One elective in statistics from among courses numbered STAT GU 4206 through GU 4266.

#### Computer Science

Select one of the following:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
COMS W1007	
ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
STAT UN2102	Applied Statistical Computing

#### Economics Seminar

ECON GU4918	SEMINAR IN ECONOMETRICS
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**Students who declared before Spring 2014:** The requirements for this program were modified in 2014. Students who declared this program before Spring 2014 should contact the director of undergraduate studies for the department in order to confirm their options for major requirements.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Economics

Please read **Required Coursework for all Programs** above. Checklists for all programs are available on our website.

The economics concentration requires a minimum of 25 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of at least 34 points as follows:

#### Economics Core Courses

All economics core courses

#### Mathematics

Select a mathematics sequence

#### Statistics

Select a Statistics course

#### Economics Electives

Select at least three electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

## ECONOMICS - PHILOSOPHY

### ECONOMICS DEPARTMENT:

Department Website: <https://econ.columbia.edu>

Office Location: 1022 International Affairs Building

Office Contact: 212-854-3680, [econ-info@columbia.edu](mailto:econ-info@columbia.edu)

Director of Undergraduate Studies: Dr. Susan Elmes, 1006 International Affairs Building; 212-854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)

Undergraduate Coordinator: Laura Yan, [ly38@columbia.edu](mailto:ly38@columbia.edu)



## THE STUDY OF ECONOMICS

Economics is the study of the ways in which society allocates its scarce resources among alternative uses and the consequences of these decisions. The areas of inquiry deal with a varied range of topics such as international trade, domestic and international financial systems, labor market analysis, and the study of less developed economies. Broadly speaking, the goal of an economics major is to train students to think analytically about social issues and, as such, provide a solid foundation for not only further study and careers in economics, but also for careers in law, public service, business, and related fields.

The Economics Department offers a general economics major in addition to five interdisciplinary majors structured to suit the interests and professional goals of a heterogeneous student body. All of these programs have different specific requirements but share the common structure of core theoretical courses that provide the foundation for higher-level elective courses culminating in a senior seminar. Students are urged to carefully look through the details of each of these programs and to contact an appropriate departmental advisor to discuss their particular interests.

## STUDENT ADVISING

The Department of Economics offers a variety of advising resources to provide prospective and current undergraduate majors and concentrators with the information and support needed to successfully navigate through the program. These resources are described below.

### Consulting Advisors

For answers to the most common questions that students have about the majors, the department has graduate student advisors, who are available by e-mail at [econ-advising@columbia.edu](mailto:econ-advising@columbia.edu), or during weekly office hours to meet with students.

Students should direct all questions and concerns about any economic program to the graduate student advisors either in person or via e-mail. The graduate student advisors can discuss major requirements, scheduling, and major course selection, as well as review student checklists and discuss progress in the major. Occasionally, graduate student advisors may refer a student to someone else in the department (such as the director of undergraduate studies) or in the student's school for additional advising.

Contact information and office hours for the graduate student advisors are posted on the Advisors page [Advisors page](#) of the departmental website in the week prior to the beginning of the semester. Students considering one of the interdepartmental majors should speak to both a graduate student advisor from the Economics Department and the advisor from the other department early in the sophomore year.

### Faculty Advisors

Faculty advisors are available only to declared majors. They are able to discuss students' academic and career goals, both in terms of the undergraduate career and post-graduate degrees and research. Students wishing to discuss these types of substantive topics may request a faculty advisor by completing the google form available on the [Advisors page](#) of the departmental website.

The department does its best to match students with faculty members that share similar academic interests. While faculty advisors do not discuss major requirements—that is the role of the graduate student advisors—they do provide guidance in course selection as it relates to meeting a student's intellectual goals and interests, as well as advise on career and research options. It is recommended that students who plan on attending a Ph.D. program in economics or are interested in pursuing economics research after graduation request a faculty advisor.

## Enrolling in Classes

### Prerequisites

The Department strictly enforces all course prerequisites. Prerequisite courses cannot be taken concurrently with or after the course—they must be taken before the course. Students who take a course out of sequence (before or concurrently with its prerequisites) will not be allowed to count those credits towards the completion of their major, and consequently will be required to take an additional course to replace those credits. For placement in the calculus sequence, please consult the Math department's section of the Bulletin. The list of Prerequisites for Econ courses can be found on the [Course Prerequisites](#) page of the Dept. website.

## Registration for Restricted Classes

Most lecture courses are open to online Registration. However, Seminars, Research Courses, Independent Study and Corporate Finance are restricted. Information regarding Seminar Registration can be found on the [Senior Seminar Registration](#) page. Registration information for Research Course credit, Independent Study and Corporate Finance can be found on the [Registration Information](#) page.

## Preparing for Graduate Study

On the [Preparing for Graduate School](#) page on our website, you will find general advice for students thinking about pursuing a PhD in economics. All students who are considering graduate work should review the material posted there. Since graduate work requires more mathematical and statistical training than the economics major, students interested in graduate work should speak with econ-advising about planning their course schedule.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

AP tests must be taken in both microeconomics and macroeconomics, with a score of 5 on one test and at least a 4 on the other. Provided that this is achieved, the department grants 4 credits for a score of 4 and 5 on the AP Economics exam along with exemption from [ECON UN1105 PRINCIPLES OF ECONOMICS](#).

### IB Credit or GCE A Level Exams

If you took the IB Exam and received either a 6 or a 7 or if you took GCE A Level Exams and received an A or a B, then you will receive credit from the college. Those credits will automatically exempt you from the Principles requirement.

### Barnard College Courses

Barnard Economics Core Courses and seminars do NOT count towards the Columbia Economics Major or concentration. Specifically, the following courses will NOT count toward your major program:

[ECON BC1003](#), [ECON BC1007](#), [ECON BC2411](#), [ECON BC3018](#), [ECON BC3033](#), [ECON BC3035](#).

The Barnard courses listed below will count as Electives toward your Economics Major provided you have completed the course prerequisites, have not taken an equivalent course in the Columbia Department, and have fulfilled the minimum requirement of taking 5 lecture courses in the Columbia Department.

#### Economics (Barnard)

ECON BC2010	The Economics of Gender
ECON BC2012	Economic History of Western Europe
ECON BC2017	INTRODUCTION TO HEALTH ECONOMICS
ECON BC2020	Introduction to Development Economics
ECON BC2075	Logic and Limits of Economic Justice
ECON BC2224	CODING MARKETS
ECON BC3010	American Wellbeing
ECON BC3011	INEQUALITY AND POVERTY
ECON BC3012	THE ECONOMICS OF EDUCATION
ECON BC3013	Economic History of the United States
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON BC3019	LABOR ECONOMICS
ECON BC3027	Economics of Inequality
ECON BC3022	Economic History of Europe
ECON BC3023	Topics in Economic History
ECON BC3024	MIGRATION # ECONOMIC CHANGE
ECON BC3026	Economics of the Public Sector
ECON BC3029	EMPIRICAL APPROACHES DEVLPMNT
ECON BC3031	Economics of Life

ECON BC3038	INTERNATIONAL MONEY # FINANCE
ECON BC3039	Environmental and Natural Resource Economics
ECON BC3041	THEORETICAL FOUNDATIONS-POLIT ECON
ECON BC3045	BUSINESS CYCLES
ECON BC3047	International Trade
ECON BC3049	Economic Evaluation of Social Programs
ECON BC3270	Topics in Money and Finance
ECON UN3025	FINANCIAL ECONOMICS
ECON UN3265	MONEY AND BANKING

**NOTES:**

1) ECON UN2261 Accounting and Finance for Economics does NOT count as an economics elective. Financial Economics majors may take this course to fulfill their accounting requirement.

2) The above list is not necessarily complete. Barnard Department on occasion adds new lecture courses. If you have a question about a Barnard elective course not listed above, then you should contact econ-advising@columbia.edu.

**Transfer Courses**

Any courses taken outside of the Economics Departments at Columbia or Barnard that you would like to apply towards the completion of your economics degree must be approved by the Department of Economics in addition to approval by your school. All majors and joint majors are required to take a minimum of 5 lecture courses from the Columbia Department of Economics and must take their senior seminar at Columbia.

See the [Transfer Credit Information](#) page for details on which courses may be eligible for transfer credit, as well as information on how to apply for transfer credit. Please read the information carefully before submitting your materials for review.

**Study Abroad Courses**

All students who plan to study abroad must contact Sunil Gulati during the prior semester to get preliminary approval for any economics courses that they intend to take abroad. Students should also review the information posted on the [Transfer Credit Information](#) page for details regarding which courses may be eligible.

**Summer Courses**

All students who hope to take classes in the Summer outside of Columbia University must also contact Sunil Gulati in advance to get preliminary approval for any economics courses. Note that students must also have approval from their school to take Summer courses outside of Columbia.

**UNDERGRADUATE RESEARCH AND SENIOR THESIS****Undergraduate Research in Courses**

All majors write a research paper in either a senior seminar or in the honors seminar. Each semester the department offers a wide range of senior seminars (see [Senior Seminar Descriptions](#) for the seminars currently on offer). Seminars are small, discussion-based courses focused on a research topic in economics. Students are expected to attend and participate in these courses, as well as to write an original research paper. Registration information for senior seminars is available on the [Senior Seminar Registration](#) page. Some students will write a senior thesis in the Honors Seminar. Details about writing a senior thesis are below.

**Senior Thesis Coursework and Requirements****SENIOR HONORS THESIS****Honors Seminar**

The honors seminar is a full-year course, and you will not receive a grade until you have completed both semesters. Completing both semesters satisfies your seminar requirement in the economics department. If you do not complete both

semesters, however, you must take a senior seminar to graduate as a major. For details see the Senior Honors Thesis info on the [Honors and Prizes](#) page.

Students who successfully complete the Honors Seminar are eligible to graduate with departmental honors in economics.

## Undergraduate Research Outside of Courses

During the academic year, students may work as an RA with a faculty member or PhD student and receive 1 – 2 credits of either ECON GU4996 Research Credit or ECON GU4995 Research Credit (GU 4995 is for GS students only). Research positions typically entail an average of 3 hours of work per week per credit. Research credit may not be used as a substitute for elective or seminar requirements in the major and students will receive a letter grade for their work. Students considering graduate work or writing a senior thesis in economics should take one or more RA positions during their time at Columbia. Information on Research Credit (GU4995 and GU4996) is posted on the [Opportunities](#) page. Available RA positions are posted every semester on our WIKI page, [Econ Info For Students](#) (log-in required).

## DEPARTMENT HONORS AND PRIZES

### Departmental Honors

Economics majors and economics joint majors who wish to be considered for departmental honors in economics must:

1. Have at least a 3.7 GPA in their major courses;
2. Take ECON GU4999 Senior Honors Thesis Workshop (a one-year course);
3. Receive at least a grade of A- in ECON GU4999 Senior Honors Thesis Workshop.

Students must apply for admission to GU4999 and details regarding that application are included in the annual Summer Mailing sent to all students with a declared program in economics. Please note that ECON GU4999 Senior Honors Thesis Workshop may be taken to fulfill the seminar requirement for the economics major and all economics joint majors. Normally no more than 10% of graduating majors receive departmental honors in a given academic year. Please see the [Honors and Prizes](#) page on the department's website for more information.

### Undergraduate Prizes

All prize recipients are announced at the end of the spring semester each academic year.

#### Sanford S. Parker Prize

Established in 1980, this prize is awarded annually to a Columbia College graduating student who majored or concentrated in economics and plans on continuing his or her studies in an economics Ph.D. program within the two years following his or her graduation.

#### Romine Prize

Established in 1997, this prize is awarded annually to two students (Columbia College or General Studies) majoring in economics: one for the best honors thesis paper, and the other for the best economics seminar paper.

#### Summer Research Prizes

##### *Parker Summer Research Fellowship*

The Parker Summer Fellowship provides financial support for five Columbia College underclassmen who take unpaid summer internships that focus on research. Preference is given to students working with Columbia researchers but all CC students undertaking a summer research position are eligible to apply.

##### *GS Prize for Summer Research*

The GS Summer Fellowship provides financial support for 2 GS underclassmen who take unpaid summer internships that focus on research. Preference is given to students working with Columbia researchers but all GS students undertaking a summer research position are eligible to apply.

## OTHER IMPORTANT INFORMATION

### Online Information

Students can access useful information online, including but not limited to: a comprehensive FAQ page; transfer credit information; sample programs and checklists; faculty office hours, contact information and fields of specialization; advisor contact information; teaching and research assistant opportunities; a list of tutors; and current course offerings.

Posted on our [Announcements](#) page are links to the most important memos that we distribute to our majors including pre-registration mailings, the summer mailing and information for new majors. Our [WIKI](#) page has information about opportunities both inside and outside of the department. Login is required to access the WIKI page.

### Frequently Asked Questions

As a first step, students are encouraged to visit the Dept.'s [FAQ page](#), which provides comprehensive information and answers to the most frequently-asked questions about the departmental majors and requirements. This page also includes a section that answers specific questions of first-year students, sophomores, and non-majors.

## PROFESSORS

Douglas Almond (also School of International and Public Affairs)

Jushan Bai

Jagdish N. Bhagwati

Sandra Black (also School of International and Public Affairs)

Alessandra Casella (also Political Science Department)

Yeon-Koo Che

Pierre-André Chiappori

Graciela Chichilnisky

Richard Clarida (also School of International and Public Affairs)

Donald Davis

Prajit Dutta

Gautam Gowrisankaran

Harrison Hong

R. Glenn Hubbard (also Business School)

Navin Kartik

Wojciech Kopczuk (also School of International and Public Affairs)

Sokbae (Simon) Lee

Qingmin Liu

Suresh Naidu (also School of International and Public Affairs)

Serena Ng

Brendan O'Flaherty

Andrea Prat (also Business School)

Jeffrey Sachs (also Earth Institute, School of International and Public Affairs, Dept of Health Policy and Management)

Xavier Sala-i-Martin

Bernard Salanié

José A. Scheinkman

Stephanie Schmitt-Grohé

Joseph Stiglitz (also Business School, School of International and Public Affairs)

Martín Uribe

Miguel Urquiola (also School of International and Public Affairs)

Eric Verhoogen (also School of International and Public Affairs)

Ebonya Washington (also School of International and Public Affairs)

David Weinstein

Michael Woodford (Chair)



## ASSOCIATE PROFESSORS

Mark Dean  
Lena Edlund  
Jennifer La'O

## ASSISTANT PROFESSORS

Hassan Afrouzi  
Michael Best  
Matthieu Gomez  
Emilien Gouin-Bonenfant  
Elliot Lipnowski  
Neomie Pinardon-Touati  
Evan Sadler  
Pietro Tebaldi  
Jack Willis

## LECTURERS

Irasema Alonso  
Isaac Bjorke  
Tri Vi Dang  
Susan Elmes  
Seyhan Erden  
Tamrat Gashaw  
Sunil Gulati  
Waseem Noor

## ADJUNCT FACULTY

Qi Ge  
Claudia Halbac  
Karla Hoff  
Caterina Musatti

## ON LEAVE

Prof. Willis (2023-2024)  
Profs. Che, Gouin-Bonenfant, Hong, Lipnowski, Sadler, Washongton *Fall 2023*)  
Profs. Casella, Schmitt-Grohe (*Spring 2024*)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

There are a number of resources to assist you in planning your program in economics.

- Checklists for all programs are available on our website.
- Econ-advising is available to assist all students with academic planning. They can be reached by email or in person during their office hours.
- Tentative annual course offerings are posted on the website and in departmental newsletters.
- Information for new students is posted on the Academic Resources Fair page.

## Course Numbering Structure

All economics programs begin with an introductory 1000 level course (Principles of Economics) and progress through the required 3000 level required core economics courses (Intermediate Micro, Intermediate Macro and Econometrics). Most elective courses are offered at the 3000 and 4000 level and all require that students have completed at least UN 3211 Int Micro and UN 3213 Int Macro. The department offers a limited number of 2000 level electives and these courses only require that students have completed Principles of Economics.

## Guidance for First-Year Students

Our [Academic Resources Fair](#) page has answers to the most common questions of new students at Columbia. On that page you will find information about advising, placement, course planning, opportunities in the department and much more. If you are interested in pursuing economics, then it is strongly recommended that you read through the information posted here.

## Guidance for Transfer Students

Our [Academic Resources Fair](#) page has answers to the most common questions of transfer students at Columbia. On that page you will find information about advising, placement, course planning, opportunities in the department and much more. If you are interested in pursuing economics, then it is strongly recommended that you read through the information posted here.

The Transfer Credit page has all of the information that you will need to apply for transfer credits for economics courses that you have taken elsewhere. Note that the economics department will also review your transfer credits for calculus I, statistics and accounting courses. Details about all of these courses are also posted at Transfer Credit Information.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

#### Checklists and Requirements

Checklists and Requirement information are available on the [Department website](#).

#### Economics Core Courses

**All** of the core courses must be completed **no later than the spring semester** of the student's **junior year** and must be taken at Columbia. *Students who take any core course during the fall semester of their senior year must obtain written permission from the department's director of undergraduate studies.* Unless otherwise specified below, all students must complete the following core courses:

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS

#### Prerequisites

Course prerequisites are strictly enforced. Prerequisites must be taken before the course, not after or concurrently.

Economics courses taken before the completion of any of its prerequisites, even with instructor approval, are **not** counted toward the major, concentration, or interdepartmental majors. Exemptions from a prerequisite requirement may only be made, in writing, by the department's director of undergraduate studies. Credits from a course taken *prior* to the completion of its prerequisites are **not** counted towards the major requirements. As a consequence, students are required to complete **additional**, specific courses in economics at the direction of the director of undergraduate studies.

The prerequisites for required courses are as follows:

Course	Prerequisites
ECON UN1105 PRINCIPLES OF ECONOMICS	None
MATH UN1101 CALCULUS I	
STAT UN1201 CALC-BASED INTRO TO STATISTICS	MATH UN1101 CALCULUS I

ECON UN3211 INTERMEDIATE MICROECONOMICS	ECON UN1105 PRINCIPLES OF ECONOMICS MATH UN1201 CALCULUS III or UN1205
ECON UN3213 INTERMEDIATE MACROECONOMICS	ECON UN1105 PRINCIPLES OF ECONOMICS MATH UN1101 CALCULUS I Co-requisite: MATH UN1201 CALCULUS III or UN1205
ECON UN3412 INTRODUCTION TO ECONOMETRICS	MATH UN1201 CALCULUS III or UN1205 ECON UN3211 INTERMEDIATE MICROECONOMICS or UN3213 STAT UN1201 CALC-BASED INTRO TO STATISTICS
ECON 2000-level electives	ECON UN1105 PRINCIPLES OF ECONOMICS
ECON GU4211 ADVANCED MICROECONOMICS	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS MATH UN2010 LINEAR ALGEBRA Corequisites: MATH UN2500 ANALYSIS AND OPTIMIZATION or GU4061
ECON GU4412 ADVANCED ECONOMETRICS	ECON UN3211 INTERMEDIATE MICROECONOMICS
ECON GU4213 ADVANCED MACROECONOMICS	ECON UN3213 INTERMEDIATE MACROECONOMICS
ECON GU4413 Econometrics of Time Series and Forecasting	ECON UN3412 INTRODUCTION TO ECONOMETRICS MATH UN2010 LINEAR ALGEBRA
ECON UN3025 FINANCIAL ECONOMICS	ECON UN3211 INTERMEDIATE MICROECONOMICS
ECON GU4020 ECON OF UNCERTAINTY # INFORMTN	ECON UN3213 INTERMEDIATE MACROECONOMICS
ECON GU4230 ECONOMICS OF NEW YORK CITY	STAT UN1201 CALC-BASED INTRO TO STATISTICS
ECON GU4260 MARKET DESIGN	
ECON GU4280 CORPORATE FINANCE	
ECON GU4370 POLITICAL ECONOMY	
ECON GU4700 FINANCIAL CRISES	
ECON GU4710 FINANCE AND THE REAL ECONOMY	
ECON GU4850 COGNITIVE MECH # ECON BEHAVIOR	
ECON GU4860 BEHAVIORAL FINANCE	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS ECON UN3412 INTRODUCTION TO ECONOMETRICS (Co-requisite)
All other ECON 3000- and 4000-level electives	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS
ECON UN3901 ECONOMICS OF EDUCATION	ECON UN3211 INTERMEDIATE MICROECONOMICS
ECON UN3952 MACROECONOMICS#FORMATION OF EXPECTATIONS	ECON UN3213 INTERMEDIATE MACROECONOMICS
ECON UN3981 APPLIED ECONOMETRICS	ECON UN3412 INTRODUCTION TO ECONOMETRICS
ECON GU4911 MICROECONOMICS SEMINAR	
ECON GU4913 MACROECONOMICS SEMINAR	
ECON GU4918 SEMINAR IN ECONOMETRICS	
ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS ECON UN3412 INTRODUCTION TO ECONOMETRICS ECON GU4370 POLITICAL ECONOMY
ECPH GU4950 ECONOMICS # PHILOSOPHY	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS ECON UN3412 INTRODUCTION TO ECONOMETRICS
Barnard electives	See Barnard bulletin

It is **strongly recommended** that students take ECON UN3412 INTRODUCTION TO ECONOMETRICS in the semester **immediately** following the completion of the statistics course.

## Grading

No course with a grade of D or lower, including calculus and statistics courses, can count toward the major, concentration, or interdepartmental majors. Economics core courses with a grade of D or F must be retaken and completed with a grade of C- or better.

Students who receive a grade of D or F in a core course are permitted to take a higher-level elective course that has that core course as a prerequisite, so long as it is taken concurrently with the retaking of that core course. For example, if a student fails ECON UN3211 INTERMEDIATE MICROECONOMICS, the student must retake it and, in the same semester, may enroll in an elective course for which it is a prerequisite, provided that all other prerequisites for the elective have been completed. The same rule applies to the required math and statistics courses. For example, if a student fails MATH UN1201 CALCULUS III, the student may retake calculus III concurrently with *Intermediate Microeconomics*. Students who must retake any core economics or math course may not retake it concurrently with a senior seminar; the economics core courses ECON UN3211 INTERMEDIATE MICROECONOMICS, ECON UN3213 INTERMEDIATE MACROECONOMICS, and ECON UN3412 INTRODUCTION TO ECONOMETRICS must be successfully completed before a student may enroll in a seminar.

A grade of W is not equivalent to a grade of D or F; it does not qualify a student to retake the course concurrently with a higher level course that lists the course as a prerequisite. Students who receive a grade of W in a core course must complete the course with a grade of C- or better before taking a course that lists it as a prerequisite.

Only ECON UN1105 PRINCIPLES OF ECONOMICS may be taken for a grade of Pass/D/Fail, and the student must receive a grade of P for it to count towards the requirements for the major, concentration, or interdepartmental majors.

## Economics Electives

Only those courses identified in the Economics Department listings in this Bulletin may be taken for elective credit. All 3000-level or higher electives offered by the Economics Department have ECON UN3211 INTERMEDIATE MICROECONOMICS and ECON UN3213 INTERMEDIATE MACROECONOMICS as prerequisites. However, some electives have additional prerequisites and students should ensure that all prerequisites have been completed (see the table of prerequisites printed above). *Seminars do not count as electives.*

## Seminars

Seminars can be taken only after all of the required core courses in economics have been successfully completed. Students may not take or re-take ECON UN3211 INTERMEDIATE MICROECONOMICS, ECON UN3213 INTERMEDIATE MACROECONOMICS, or ECON UN3412 INTRODUCTION TO ECONOMETRICS concurrently with any senior seminar. *Seminars do not count as electives.* Each seminar is limited to sixteen students, with priority given to seniors. For ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS and ECPH GU4950 ECONOMICS # PHILOSOPHY, priority is given to economics-political science and economics-philosophy majors, respectively.

For seminar registration details, read the information posted on the department's *Senior Seminar Registration* page: <http://econ.columbia.edu/senior-seminars-registration>.

## Mathematics

Students must consult with the Mathematics Department for the appropriate placement in the calculus sequence. Students must complete one of the following sequences:

Select one of the following sequences:

MATH UN1101 & MATH UN1201	CALCULUS I and CALCULUS III
MATH UN1101 & MATH UN1205	CALCULUS I and ACCELERATED MULTIVARIABLE CALC
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

In addition:

1. Students who receive a grade of D or F in MATH UN1201 CALCULUS III or MATH UN1205 must retake the course, but may enroll in ECON UN3211 INTERMEDIATE MICROECONOMICS.

2. Students who receive a grade of D or F in MATH UN1207 HONORS MATHEMATICS A may either retake the course, or take MATH UN1201 CALCULUS III or MATH UN1205, and enroll in ECON UN3211 INTERMEDIATE MICROECONOMICS concurrently.

### Statistics

Unless otherwise specified below, all students must take STAT UN1201 CALC-BASED INTRO TO STATISTICS, or a higher level course, such as STAT GU4204 STATISTICAL INFERENCE, or STAT GU4001.

### Barnard Courses

A limited number of Barnard economics electives may count toward the major, concentration, and interdepartmental majors. Students should pay careful attention to the limit of Barnard electives indicated in their program requirements. Please see the *Transfer Credit* section below for information on the number of Barnard electives that may be taken to fulfill major requirements. In addition, students may receive credit for the major, concentration, and interdepartmental majors only for those Barnard economics courses listed in this Bulletin. However, students may not receive credit for two courses whose content overlaps. Barnard and Columbia economics electives with overlapping content include but are not limited to:

ECON BC3029 & ECON GU4321	EMPIRICAL APPROACHES DEVLPMNT and ECONOMIC DEVELOPMENT
ECON BC3038 & ECON GU4505	INTERNATIONAL MONEY # FINANCE and INTERNATIONAL MACROECONOMICS
ECON BC3019 & ECON GU4400	LABOR ECONOMICS and LABOR ECONOMICS
ECON BC3047 & ECON GU4500	International Trade and INTERNATIONAL TRADE
ECON BC3039 & ECON GU4625	Environmental and Natural Resource Economics and ECONOMICS OF THE ENVIRONMENT
ECON BC3041 & ECON GU4235	THEORETICL FOUNDTNS-POLIT ECON and HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes
ECON GU4400	LABOR ECONOMICS
ECON GU4235	HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes

Students should always first consult with *econ-advising* to confirm that the Barnard elective they wish to take does not overlap with a Columbia elective that they have already taken or plan to take. Students may *not* take the Barnard core economics, math, statistics, or seminar courses for credit towards the completion of major requirements.

### School of Professional Studies Courses

The Department of Economics does not accept *any* of the courses offered through the School of Professional Studies for credit towards the economics major, concentration, or interdepartmental majors with the exception of the courses offered by the Economics Department during the summer session at Columbia.

### Other Department and School Courses

Please note that with the exception of the above Barnard courses and the specific courses listed below for the financial economics major, no other courses offered through the different departments and schools at Columbia count toward the economics majors or concentration.

### Transfer Credits

Students are required to take a minimum number of courses in the Columbia Economics Department. For all majors and interdepartmental majors, students must complete a minimum of *five* lecture courses in the Columbia department. Students may fulfill their remaining requirements for economics lecture courses through AP (or IB or GCE) credits, Barnard electives, transfer courses, and study abroad courses (the latter two are subject to the approval of the Economics Department). The following table summarizes the new rules:



Program	Number of required economics lecture courses	Minimum number which must be taken in the department	Maximum number of outside allowed
Economics major	9	5	4
Financial economics	8	5	3
Economics-mathematics	7	5	2
Economics-political science	7	5	2
Economics-statistics	7	5	2
Economics-philosophy	7	5	2
Economics concentration	7	4	3

1. **Lecture courses** do not include seminars, which must be taken in the Columbia Economics Department. The lecture course counts are counts of economics courses only and do **not** include math, statistics, or courses in other departments;
2. At least two of the three 3000-level economics core courses must be taken in the department and no corresponding Barnard courses are accepted. ECON UN3025 FINANCIAL ECONOMICS and ECON UN3265 MONEY AND BANKING are counted as departmental courses regardless of the instructor;
3. **Outside courses** include AP (or IB or GCE) credits, transfer credits, Barnard 2000- and 3000-level elective courses and transfer credits from other universities. In the case where two or more courses taken outside of Columbia are used as the equivalent of ECON UN1105 PRINCIPLES OF ECONOMICS, those courses are counted as one transfer course.
4. At least one of the core finance courses, ECON UN3025 FINANCIAL ECONOMICS and ECON GU4280 CORPORATE FINANCE, must be taken at Columbia.

**Approval of transfer credits** to fulfill economics requirements must be obtained in writing from the Department of Economics (see the [departmental website](#) or speak with your advising dean for information regarding applications for transfer credit). Approval is granted only for courses that are considered to be comparable to those offered at Columbia.

**Summer courses** taken at other institutions must be approved in writing by the department's transfer credit adviser before the course is taken. The department does not accept transfer credits for any 3000 level core courses taken during a summer session outside of Columbia University. Summer courses taken from the department of economics at Columbia University do not need approval.

**Guidelines and instructions** on how to request transfer credit approval can be found in the *Transfer Credit Information* page of the [departmental website](#).

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## Major in Economics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The economics major requires a minimum of 35 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of at least 44 points as follows:

### Economics Core Courses

All economics core courses

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Economics Electives

Select at least five electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

### Economics Seminar

Select one economics seminar course

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## Major in Financial Economics

Please read **Required Coursework for all Programs** above.

The Department of Economics offers the major in financial economics, which provides an academic framework to explore the role of financial markets and intermediaries in the allocation (and mis-allocation) of capital. Among the topics studied in financial economics are financial markets, banks and other financial intermediaries, asset valuation, portfolio allocation, regulation and corporate governance.

The financial economics major requires 26 points in economics, 6 points in mathematics, 3 points in statistics, 3 points in business, and 12 points from a list of selected courses for a total minimum of 50 points as follows:

### Economics Core Courses

All economics core courses

### Finance Core Courses \*

ECON UN3025	FINANCIAL ECONOMICS
ECON GU4280	CORPORATE FINANCE
BUSI UN3013	FINANCIAL ACCOUNTING

\*NOTE: The department considers BUSI UN3013, IEOR E2261 and ECON UN2261 as overlapping courses. Students who take these three courses shall be credited with one course only. Financial economics majors who are also in the Business Management concentration program (CNBUMG) must take an additional elective from either the financial economics prescribed elective list (below) or from the CNBUMB prescribed list.

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Electives

Select four of the following, of which two must be from the Columbia or Barnard economics departments, or equivalent economics transfer credits:

ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON UN3265	MONEY AND BANKING
ECON UN3901	ECONOMICS OF EDUCATION
ECON UN3952	MACROECONOMICS#FORMATION OF EXPECTATIONS
ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
ECON GU4213	ADVANCED MACROECONOMICS
ECON GU4251	INDUSTRIAL ORGANIZATION
ECON GU4260	MARKET DESIGN
ECON GU4412	ADVANCED ECONOMETRICS
ECON GU4415	GAME THEORY
or ECON BC3080	Applied Game Theory
ECON GU4465	PUBLIC ECONOMICS
or ECON BC3026	Economics of the Public Sector
ECON GU4500	INTERNATIONAL TRADE
or ECON BC3047	International Trade
ECON GU4505	INTERNATIONAL MACROECONOMICS
or ECON BC3038	INTERNATIONAL MONEY # FINANCE
ECON G4526	Transition Reforms, Globalization and Financial Crisis
ECON GU4615	LAW AND ECONOMICS
ECON GU4630	Climate Finance
ECON GU4700	FINANCIAL CRISES
ECON GU4710	FINANCE AND THE REAL ECONOMY
ECON GU4840	BEHAVIORAL ECONOMICS
or ECON BC3048	Introduction to Behavioral Economics
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR

ECON GU4860	BEHAVIORAL FINANCE
BIOT GU4180	ENTREPRENEURSHIP IN BIOTECH
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON BC3043	Monetary Theory # Policy
BUSI UN3021	MARKETING MANAGEMENT
BUSI UN3701	STRATEGY FORMULATION
BUSI UN3702	VENTURING TO CHANGE THE WORLD
BUSI UN3703	LEADERSHIP IN ORGANIZATION
BUSI UN3704	Making History Through Venturing
COMS W1002	COMPUTING IN CONTEXT
HIST W2904	History of Finance
IEOR E4106	STOCHASTIC MODELS
IEOR E4700	INTRO TO FINANCIAL ENGINEERING
MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GR5010	INTRO TO THE MATH OF FINANCE
POLS UN3630	POLITCS OF INTL ECON RELATIONS
STAT W3201	Math Finance in Continuous Time
STAT GU4261	STATISTICAL METHODS IN FINANCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance

#### Seminar

The seminar must be chosen from a list of seminars eligible for the financial economics major. The department indicates which seminars are eligible for the major on the Senior Seminars page of the departmental website.

Students must have completed at least one of ECON UN3025 or ECON GU4280 prior to taking their senior seminar.

- \* 1) Students must complete the finance core no later than fall of their senior year. 2) At least one of the core finance courses, ECON UN3025 and ECON GU4280, must be taken at Columbia.

## Major in Economics-Mathematics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The major in economics and mathematics provides students with a grounding in economic theory comparable to that provided by the general economics major and exposes students to rigorous and extensive training in mathematics. The program is recommended for any student planning to do graduate work in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Mathematics has an assigned adviser with whom students may consult on mathematics requirements. The economics adviser can only advise on economics requirements; the mathematics adviser can only advise on mathematics requirements.

The economics-mathematics major requires a total of 52 or 56 points (depending on mathematics sequence) : 29 points in economics and 23-27 points in mathematics and statistics as follows:

#### Economics Core Courses

All economics core courses

#### Economics Electives

Select three electives at the 3000-level or above

#### Mathematics

Select one of the following sequences:

MATH UN1101  
& MATH UN1102  
& MATH UN1201  
& MATH UN2010

CALCULUS I  
and CALCULUS II  
and CALCULUS III  
and LINEAR ALGEBRA

MATH UN1101  
& MATH UN1102  
& MATH UN1205  
& MATH UN2010

CALCULUS I  
and CALCULUS II  
and ACCELERATED MULTIVARIABLE CALC  
and LINEAR ALGEBRA

MATH UN1207  
& MATH UN1208

HONORS MATHEMATICS A  
and HONORS MATHEMATICS B

Note: Students who take MATH UN1205 may not receive credit for both MATH UN1201 and MATH UN1202.

Analysis requirement:

MATH UN2500 ANALYSIS AND OPTIMIZATION

Select three of the following:

MATH UN1202 CALCULUS IV

MATH UN2030 ORDINARY DIFFERENTIAL EQUATIONS

Any mathematics course at the 3000-level or above

Note: Students who take MATH UN1205 will not receive credit for MATH UN1202.

### Statistics

Select one of the following sequences:

STAT GU4001 INTRODUCTION TO PROBABILITY AND STATISTICS

STAT GU4203  
& STAT GU4204

PROBABILITY THEORY  
and STATISTICAL INFERENCE

### Economics Seminar

Select an economics seminar

### NOTE:

1. Students who fulfill the statistics requirement with STAT GU4203 and STAT GU4204, may count STAT GU4203 or STAT GU4204 as one of the three required mathematics electives.
2. Students who choose the one year sequence (STAT GU4203/ STAT GU4204), must complete the year long sequence *prior* to taking ECON UN3412. Students receive elective credit for the probability course.

## Major in Economics-Philosophy

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

Economics-philosophy is an interdisciplinary major that introduces students to basic methodologies of economics and philosophy and stresses areas of particular concern to both, e.g. rationality and decision making, justice and efficiency, freedom and collective choice, logic of empirical theories and testing. Many issues are dealt with historically. Classic texts of Plato, Kant, Mill, Marx, and Smith are reviewed.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Philosophy has an assigned adviser with whom students may consult on philosophy requirements. The economics adviser can only advise on economics requirements; the philosophy adviser can only advise on philosophy requirements.

The economics-philosophy major requires a total minimum of 54 points: 25 points in economics, 16 points in philosophy, 6 points in mathematics, 3 points in statistics, and 4 points in the interdisciplinary seminar as follows:

### Economics Core Courses

ECON UN1105 PRINCIPLES OF ECONOMICS

ECON UN3211 INTERMEDIATE MICROECONOMICS

ECON UN3213 INTERMEDIATE MACROECONOMICS

ECON UN3412 INTRODUCTION TO ECONOMETRICS

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Economics Electives

Three Electives are required; two must be selected from the below list, and the remaining elective may be any economics elective at the 3000-level or above.

ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
ECON UN3901	ECONOMICS OF EDUCATION
ECON GU4211	ADVANCED MICROECONOMICS
ECON GU4213	ADVANCED MACROECONOMICS
ECON GU4228	URBAN ECONOMICS
ECON GU4230	ECONOMICS OF NEW YORK CITY
ECON GU4235	HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes
or ECON BC3041	THEORETICAL FOUNDATIONS-POLIT ECON
ECON GU4260	MARKET DESIGN
ECON GU4301	ECONOMIC GROWTH # DEVELOPMENT I
ECON GU4321	ECONOMIC DEVELOPMENT
or ECON BC3029	EMPIRICAL APPROACHES DEVELOPMENT
ECON GU4370	POLITICAL ECONOMY
ECON GU4400	LABOR ECONOMICS
or ECON BC3019	LABOR ECONOMICS
ECON GU4415	GAME THEORY
or ECON BC3080	Applied Game Theory
ECON GU4438	ECONOMICS OF RACE IN THE U.S.
ECON GU4465	PUBLIC ECONOMICS
or ECON BC3026	Economics of the Public Sector
ECON GU4480	GENDER # APPLIED ECONOMICS
ECON GU4500	INTERNATIONAL TRADE
or ECON BC3047	International Trade
ECON GU4615	LAW AND ECONOMICS
ECON GU4625	ECONOMICS OF THE ENVIRONMENT
or ECON BC3039	Environmental and Natural Resource Economics
ECON GU4630	Climate Finance
ECON GU4750	GLOBALIZATION # ITS RISKS
ECON GU4840	BEHAVIORAL ECONOMICS
or ECON BC3048	Introduction to Behavioral Economics
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
ECON BC3011	INEQUALITY AND POVERTY
<b>Philosophy Courses</b>	
PHIL UN1010	METHODS/PROB OF PHILOSOPHY
PHIL UN3411	SYMBOLIC LOGIC
PHIL UN3701	ETHICS
PHIL UN3551	PHILOSOPHY OF SCIENCE
or PHIL UN3960	EPISTEMOLOGY
PHIL GU4561	PROBABILITY # DECISION THEORY
<b>Seminar</b>	
ECPH GU4950	ECONOMICS # PHILOSOPHY

**Students who declared before Spring 2014:** The requirements for this program were modified in 2014. Students who declared this program before Spring 2014 should contact the director of undergraduate studies for the department in order to confirm their options for major requirements.



## Major in Economics–Political Science

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

Political economy is an interdisciplinary major that introduces students to the methodologies of economics and political science and stresses areas of particular concern to both. This program is particularly beneficial to students planning to do graduate work in schools of public policy and international affairs.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Political Science has an assigned adviser with whom students may consult on political science requirements. The economics adviser can only advise on economics requirements; the political science adviser can only advise on political science requirements.

The economics–political science major requires a total of 59 points: 22 points in economics, 17 points in political science, 6 points in mathematics, 6 points in statistical methods, 4 points in a political science seminar, and 4 points in the interdisciplinary seminar as follows.

The political science courses are grouped into four areas, i.e. subfields: (1) American Politics, (2) Comparative Politics, (3) International Relations, and (4) Political Theory. For the political science part of the major, students are required to select one area as a major subfield and one as a minor subfield. The corresponding introductory courses in both subfields must be taken, plus two electives in the major subfield, and one in the minor subfield.

### Economics Core Courses

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON GU4370	POLITICAL ECONOMY

### Mathematics

Select a mathematics sequence

### Statistical Methods

STAT UN1201	CALC-BASED INTRO TO STATISTICS
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Select one of the following:

ECON UN3412	INTRODUCTION TO ECONOMETRICS
POLS GU4712	PRINC OF QUANT POL RESEARCH 2

### Economics Electives

Select two electives (6 points) at the 3000-level or above

### Political Science Courses

Students must choose a Primary Subfield and a Secondary Subfield to study. The subfields are as follows: American Politics (AP), Comparative Politics (CP), International Relations (IR), and Political Theory (PT).

Primary Subfield: Minimum three courses, one of which must be the subfield's introductory course.

Secondary Subfield: Minimum two courses, one of which must be the subfield's introductory course.

### Seminars

Students must take the following two seminars:

ECPS GU4921	SEMINAR IN POLITICAL ECONOMICS
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and a Political Science Department seminar, in the student's Primary Subfield. Please select one of the following: \*

POLS UN3911	SEMINAR IN POLITICAL THEORY
or POLS UN3912	SEMINAR IN POLITICAL THEORY
POLS UN3921	AMERICAN POLITICS SEMINAR
or POLS UN3922	AMERICAN POLITICS SEMINAR
POLS UN3951	COMPARATIVE POLITICS SEMINAR
or POLS UN3952	Seminar in Comparative Politics
POLS UN3961	INTERNATIONAL POLITICS SEMINAR
or POLS UN3962	INTERNATIONAL POLITICS SEMINAR

- Students who wish to count toward the political science seminar requirement a course that is not in the above list of approved seminars must obtain permission from the political science Director of Undergraduate studies. Barnard colloquia can count for seminar credit only with the written permission of the Director of Undergraduate Studies. Note that admission to Barnard colloquia is by application to the Barnard political science department only.

## Major in Economics-Statistics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The major in economics-statistics provides students with a grounding in economic theory comparable to that provided by the general economics major, but also exposes students to a significantly more rigorous and extensive statistics training than is provided by the general major. This program is recommended for students with strong quantitative skills and for those contemplating graduate studies in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Statistics has an assigned adviser with whom students may consult on statistics requirements. The economics adviser can only advise on economics requirements; the statistics adviser can only advise on statistics requirements.

The economics-statistics major requires a total of 59 points: 29 in economics, 15 points in statistics, 12 points in mathematics, 3 points in computer science as follows:

### Economics Core Courses

All economics core courses

### Economics Electives

Select three electives at the 3000-level or above

### Mathematics

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

### Statistics

STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS

One elective in statistics from among courses numbered STAT GU 4206 through GU 4266.

### Computer Science

Select one of the following:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
COMS W1007	
ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
STAT UN2102	Applied Statistical Computing

### Economics Seminar

ECON GU4918	SEMINAR IN ECONOMETRICS
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**Students who declared before Spring 2014:** The requirements for this program were modified in 2014. Students who declared this program before Spring 2014 should contact the director of undergraduate studies for the department in order to confirm their options for major requirements.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Economics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The economics concentration requires a minimum of 25 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of at least 34 points as follows:

#### Economics Core Courses

All economics core courses

#### Mathematics

Select a mathematics sequence

#### Statistics

Select a Statistics course

#### Economics Electives

Select at least three electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

## ECONOMICS - POLITICAL SCIENCE

### ECONOMICS DEPARTMENT:

Department Website: <https://econ.columbia.edu>

Office Location: 1022 International Affairs Building

Office Contact: 212-854-3680, [econ-info@columbia.edu](mailto:econ-info@columbia.edu)

Director of Undergraduate Studies: Dr. Susan Elmes, 1006 International Affairs Building; 212-854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)

Undergraduate Coordinator: Laura Yan, [ly38@columbia.edu](mailto:ly38@columbia.edu)

### THE STUDY OF ECONOMICS

Economics is the study of the ways in which society allocates its scarce resources among alternative uses and the consequences of these decisions. The areas of inquiry deal with a varied range of topics such as international trade, domestic and international financial systems, labor market analysis, and the study of less developed economies. Broadly speaking, the goal of an economics major is to train students to think analytically about social issues and, as such, provide a solid foundation for not only further study and careers in economics, but also for careers in law, public service, business, and related fields.

The Economics Department offers a general economics major in addition to five interdisciplinary majors structured to suit the interests and professional goals of a heterogeneous student body. All of these programs have different specific requirements but share the common structure of core theoretical courses that provide the foundation for higher-level elective courses culminating in a senior seminar. Students are urged to carefully look through the details of each of these programs and to contact an appropriate departmental advisor to discuss their particular interests.

### STUDENT ADVISING

The Department of Economics offers a variety of advising resources to provide prospective and current undergraduate majors and concentrators with the information and support needed to successfully navigate through the program. These resources are described below.

## Consulting Advisors

For answers to the most common questions that students have about the majors, the department has graduate student advisors, who are available by e-mail at [econ-advising@columbia.edu](mailto:econ-advising@columbia.edu), or during weekly office hours to meet with students.

Students should direct all questions and concerns about any economic program to the graduate student advisors either in person or via e-mail. The graduate student advisors can discuss major requirements, scheduling, and major course selection, as well as review student checklists and discuss progress in the major. Occasionally, graduate student advisors may refer a student to someone else in the department (such as the director of undergraduate studies) or in the student's school for additional advising.

Contact information and office hours for the graduate student advisors are posted on the Advisors page [Advisors page](#) of the departmental website in the week prior to the beginning of the semester. Students considering one of the interdepartmental majors should speak to both a graduate student advisor from the Economics Department and the advisor from the other department early in the sophomore year.

## Faculty Advisors

Faculty advisors are available only to declared majors. They are able to discuss students' academic and career goals, both in terms of the undergraduate career and post-graduate degrees and research. Students wishing to discuss these types of substantive topics may request a faculty advisor by completing the google form available on the [Advisors page](#) of the departmental website.

The department does its best to match students with faculty members that share similar academic interests. While faculty advisors do not discuss major requirements—that is the role of the graduate student advisors—they do provide guidance in course selection as it relates to meeting a student's intellectual goals and interests, as well as advise on career and research options. It is recommended that students who plan on attending a Ph.D. program in economics or are interested in pursuing economics research after graduation request a faculty advisor.

## Enrolling in Classes

### Prerequisites

The Department strictly enforces all course prerequisites. Prerequisite courses cannot be taken concurrently with or after the course—they must be taken before the course. Students who take a course out of sequence (before or concurrently with its prerequisites) will not be allowed to count those credits towards the completion of their major, and consequently will be required to take an additional course to replace those credits. For placement in the calculus sequence, please consult the Math department's section of the Bulletin. The list of Prerequisites for Econ courses can be found on the [Course Prerequisites](#) page of the Dept. website.

### Registration for Restricted Classes

Most lecture courses are open to online Registration. However, Seminars, Research Courses, Independent Study and Corporate Finance are restricted. Information regarding Seminar Registration can be found on the [Senior Seminar Registration](#) page. Registration information for Research Course credit, Independent Study and Corporate Finance can be found on the [Registration Information](#) page.

## Preparing for Graduate Study

On the [Preparing for Graduate School](#) page on our website, you will find general advice for students thinking about pursuing a PhD in economics. All students who are considering graduate work should review the material posted there. Since graduate work requires more mathematical and statistical training than the economics major, students interested in graduate work should speak with econ-advising about planning their course schedule.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

AP tests must be taken in both microeconomics and macroeconomics, with a score of 5 on one test and at least a 4 on the other. Provided that this is achieved, the department grants 4 credits for a score of 4 and 5 on the AP Economics exam along with exemption from [ECON UN1105 PRINCIPLES OF ECONOMICS](#).

## IB Credit or GCE A Level Exams

If you took the IB Exam and received either a 6 or a 7 or if you took GCE A Level Exams and received an A or a B, then you will receive credit from the college. Those credits will automatically exempt you from the Principles requirement.

## Barnard College Courses

Barnard Economics Core Courses and seminars do NOT count towards the Columbia Economics Major or concentration. Specifically, the following courses will NOT count toward your major program:

ECON BC1003, ECON BC1007, ECON BC2411, ECON BC3018, ECON BC3033, ECON BC3035.

The Barnard courses listed below will count as Electives toward your Economics Major provided you have completed the course prerequisites, have not taken an equivalent course in the Columbia Department, and have fulfilled the minimum requirement of taking 5 lecture courses in the Columbia Department.

### Economics (Barnard)

ECON BC2010	The Economics of Gender
ECON BC2012	Economic History of Western Europe
ECON BC2017	INTRODUCTION TO HEALTH ECONOMICS
ECON BC2020	Introduction to Development Economics
ECON BC2075	Logic and Limits of Economic Justice
ECON BC2224	CODING MARKETS
ECON BC3010	American Wellbeing
ECON BC3011	INEQUALITY AND POVERTY
ECON BC3012	THE ECONOMICS OF EDUCATION
ECON BC3013	Economic History of the United States
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON BC3019	LABOR ECONOMICS
ECON BC3027	Economics of Inequality
ECON BC3022	Economic History of Europe
ECON BC3023	Topics in Economic History
ECON BC3024	MIGRATION # ECONOMIC CHANGE
ECON BC3026	Economics of the Public Sector
ECON BC3029	EMPIRICAL APPROACHES DEVLPMNT
ECON BC3031	Economics of Life
ECON BC3038	INTERNATIONAL MONEY # FINANCE
ECON BC3039	Environmental and Natural Resource Economics
ECON BC3041	THEORETICAL FOUNDATIONS-POLIT ECON
ECON BC3045	BUSINESS CYCLES
ECON BC3047	International Trade
ECON BC3049	Economic Evaluation of Social Programs
ECON BC3270	Topics in Money and Finance
ECON UN3025	FINANCIAL ECONOMICS
ECON UN3265	MONEY AND BANKING

### NOTES:

1) ECON UN2261 Accounting and Finance for Economics does NOT count as an economics elective. Financial Economics majors may take this course to fulfill their accounting requirement.

2) The above list is not necessarily complete. Barnard Department on occasion adds new lecture courses. If you have a question about a Barnard elective course not listed above, then you should contact [econ-advising@columbia.edu](mailto:econ-advising@columbia.edu).



## Transfer Courses

Any courses taken outside of the Economics Departments at Columbia or Barnard that you would like to apply towards the completion of your economics degree must be approved by the Department of Economics in addition to approval by your school. All majors and joint majors are required to take a minimum of 5 lecture courses from the Columbia Department of Economics and must take their senior seminar at Columbia.

See the [Transfer Credit Information](#) page for details on which courses may be eligible for transfer credit, as well as information on how to apply for transfer credit. Please read the information carefully before submitting your materials for review.

## Study Abroad Courses

All students who plan to study abroad must contact Sunil Gulati during the prior semester to get preliminary approval for any economics courses that they intend to take abroad. Students should also review the information posted on the [Transfer Credit Information](#) page for details regarding which courses may be eligible.

## Summer Courses

All students who hope to take classes in the Summer outside of Columbia University must also contact Sunil Gulati in advance to get preliminary approval for any economics courses. Note that students must also have approval from their school to take Summer courses outside of Columbia.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

All majors write a research paper in either a senior seminar or in the honors seminar. Each semester the department offers a wide range of senior seminars (see [Senior Seminar Descriptions](#) for the seminars currently on offer). Seminars are small, discussion-based courses focused on a research topic in economics. Students are expected to attend and participate in these courses, as well as to write an original research paper. Registration information for senior seminars is available on the [Senior Seminar Registration](#) page. Some students will write a senior thesis in the Honors Seminar. Details about writing a senior thesis are below.

### Senior Thesis Coursework and Requirements

#### SENIOR HONORS THESIS

##### Honors Seminar

The honors seminar is a full-year course, and you will not receive a grade until you have completed both semesters. Completing both semesters satisfies your seminar requirement in the economics department. If you do not complete both semesters, however, you must take a senior seminar to graduate as a major. For details see the Senior Honors Thesis info on the [Honors and Prizes](#) page.

Students who successfully complete the Honors Seminar are eligible to graduate with departmental honors in economics.

### Undergraduate Research Outside of Courses

During the academic year, students may work as an RA with a faculty member or PhD student and receive 1 – 2 credits of either ECON GU4996 Research Credit or ECON GU4995 Research Credit (GU 4995 is for GS students only). Research positions typically entail an average of 3 hours of work per week per credit. Research credit may not be used as a substitute for elective or seminar requirements in the major and students will receive a letter grade for their work. Students considering graduate work or writing a senior thesis in economics should take one or more RA positions during their time at Columbia. Information on Research Credit (GU4995 and GU4996) is posted on the [Opportunities](#) page. Available RA positions are posted every semester on our WIKI page, [Econ Info For Students](#) (log-in required).

## DEPARTMENT HONORS AND PRIZES

### Departmental Honors

Economics majors and economics joint majors who wish to be considered for departmental honors in economics must:

1. Have at least a 3.7 GPA in their major courses;
2. Take ECON GU4999 Senior Honors Thesis Workshop (a one-year course);
3. Receive at least a grade of A- in ECON GU4999 Senior Honors Thesis Workshop.

Students must apply for admission to GU4999 and details regarding that application are included in the annual Summer Mailing sent to all students with a declared program in economics. Please note that ECON GU4999 Senior Honors Thesis Workshop may be taken to fulfill the seminar requirement for the economics major and all economics joint majors. Normally no more than 10% of graduating majors receive departmental honors in a given academic year. Please see the [Honors and Prizes](#) page on the department's website for more information.

## Undergraduate Prizes

All prize recipients are announced at the end of the spring semester each academic year.

### Sanford S. Parker Prize

Established in 1980, this prize is awarded annually to a Columbia College graduating student who majored or concentrated in economics and plans on continuing his or her studies in an economics Ph.D. program within the two years following his or her graduation.

### Romine Prize

Established in 1997, this prize is awarded annually to two students (Columbia College or General Studies) majoring in economics: one for the best honors thesis paper, and the other for the best economics seminar paper.

### Summer Research Prizes

#### *Parker Summer Research Fellowship*

The Parker Summer Fellowship provides financial support for five Columbia College underclassmen who take unpaid summer internships that focus on research. Preference is given to students working with Columbia researchers but all CC students undertaking a summer research position are eligible to apply.

#### *GS Prize for Summer Research*

The GS Summer Fellowship provides financial support for 2 GS underclassmen who take unpaid summer internships that focus on research. Preference is given to students working with Columbia researchers but all GS students undertaking a summer research position are eligible to apply.

## OTHER IMPORTANT INFORMATION

### Online Information

Students can access useful information online, including but not limited to: a comprehensive FAQ page; transfer credit information; sample programs and checklists; faculty office hours, contact information and fields of specialization; advisor contact information; teaching and research assistant opportunities; a list of tutors; and current course offerings.

Posted on our [Announcements](#) page are links to the most important memos that we distribute to our majors including pre-registration mailings, the summer mailing and information for new majors. Our [WIKI](#) page has information about opportunities both inside and outside of the department. Login is required to access the WIKI page.

### Frequently Asked Questions

As a first step, students are encouraged to visit the Dept.'s [FAQ page](#), which provides comprehensive information and answers to the most frequently-asked questions about the departmental majors and requirements. This page also includes a section that answers specific questions of first-year students, sophomores, and non-majors.

## PROFESSORS

Douglas Almond (also School of International and Public Affairs)  
 Jushan Bai  
 Jagdish N. Bhagwati  
 Sandra Black (also School of International and Public Affairs)  
 Alessandra Casella (also Political Science Department)  
 Yeon-Koo Che  
 Pierre-André Chiappori  
 Graciela Chichilnisky  
 Richard Clarida (also School of International and Public Affairs)  
 Donald Davis  
 Prajit Dutta  
 Gautaum Gowrisankaran  
 Harrison Hong  
 R. Glenn Hubbard (also Business School)  
 Navin Kartik  
 Wojciech Kopczuk (also School of International and Public Affairs)  
 Sokbae (Simon) Lee  
 Qingmin Liu  
 Suresh Naidu (also School of International and Public Affairs)  
 Serena Ng  
 Brendan O'Flaherty  
 Andrea Prat (also Business School)  
 Jeffrey Sachs (also Earth Institute, School of International and Public Affairs, Dept of Health Policy and Management)  
 Xavier Sala-i-Martin  
 Bernard Salanié  
 José A. Scheinkman  
 Stephanie Schmitt-Grohé  
 Joseph Stiglitz (also Business School, School of International and Public Affairs)  
 Martín Uribe  
 Miguel Urquiola (also School of International and Public Affairs)  
 Eric Verhoogen (also School of International and Public Affairs)  
 Ebonya Washington (also School of International and Public Affairs)  
 David Weinstein  
 Michael Woodford (Chair)

## ASSOCIATE PROFESSORS

Mark Dean  
 Lena Edlund  
 Jennifer La'O

## ASSISTANT PROFESSORS

Hassan Afrouzi  
 Michael Best  
 Matthieu Gomez  
 Emilien Gouin-Bonenfant  
 Elliot Lipnowski  
 Neomie Pinardon-Touati  
 Evan Sadler  
 Pietro Tebaldi  
 Jack Willis

## LECTURERS

Irasema Alonso  
Isaac Bjorke  
Tri Vi Dang  
Susan Elmes  
Seyhan Erden  
Tamrat Gashaw  
Sunil Gulati  
Waseem Noor

## ADJUNCT FACULTY

Qi Ge  
Claudia Halbac  
Karla Hoff  
Caterina Musatti

## ON LEAVE

Prof. Willis (2023-2024)  
Profs. Che, Gouin-Bonenfant, Hong, Lipnowski, Sadler, Washongton *Fall 2023*)  
Profs. Casella, Schmitt-Grohe (*Spring 2024*)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

There are a number of resources to assist you in planning your program in economics.

- [Checklists](#) for all programs are available on our website.
- [Econ-advising](#) is available to assist all students with academic planning. They can be reached by email or in person during their office hours.
- Tentative annual course offerings are posted on the [website](#) and in departmental newsletters.
- Information for new students is posted on the [Academic Resources Fair](#) page.

### Course Numbering Structure

All economics programs begin with an introductory 1000 level course (Principles of Economics) and progress through the required 3000 level required core economics courses (Intermediate Micro, Intermediate Macro and Econometrics). Most elective courses are offered at the 3000 and 4000 level and all require that students have completed at least UN 3211 Int Micro and UN 3213 Int Macro. The department offers a limited number of 2000 level electives and these courses only require that students have completed Principles of Economics.

### Guidance for First-Year Students

Our [Academic Resources Fair](#) page has answers to the most common questions of new students at Columbia. On that page you will find information about advising, placement, course planning, opportunities in the department and much more. If you are interested in pursuing economics, then it is strongly recommended that you read through the information posted here.

### Guidance for Transfer Students

Our [Academic Resources Fair](#) page has answers to the most common questions of transfer students at Columbia. On that page you will find information about advising, placement, course planning, opportunities in the department and much more. If you are interested in pursuing economics, then it is strongly recommended that you read through the information posted here.

The [Transfer Credit](#) page has all of the information that you will need to apply for transfer credits for economics courses that you have taken elsewhere. Note that the economics department will also review your transfer credits for calculus I, statistics and accounting courses. Details about all of these courses are also posted at [Transfer Credit Information](#).

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

#### Checklists and Requirements

Checklists and Requirement information are available on the [Department website](#).

#### Economics Core Courses

**All** of the core courses must be completed **no later than the spring semester** of the student's **junior year** and must be taken at Columbia. *Students who take any core course during the fall semester of their senior year must obtain written permission from the department's director of undergraduate studies.* Unless otherwise specified below, all students must complete the following core courses:

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS

#### Prerequisites

Course prerequisites are strictly enforced. Prerequisites must be taken before the course, not after or concurrently.

Economics courses taken before the completion of any of its prerequisites, even with instructor approval, are **not** counted toward the major, concentration, or interdepartmental majors. Exemptions from a prerequisite requirement may only be made, in writing, by the department's director of undergraduate studies. Credits from a course taken *prior* to the completion of its prerequisites are **not** counted towards the major requirements. As a consequence, students are required to complete **additional**, specific courses in economics at the direction of the director of undergraduate studies.

The prerequisites for required courses are as follows:

Course	Prerequisites
ECON UN1105 PRINCIPLES OF ECONOMICS	None
MATH UN1101 CALCULUS I	
STAT UN1201 CALC-BASED INTRO TO STATISTICS	MATH UN1101 CALCULUS I
ECON UN3211 INTERMEDIATE MICROECONOMICS	ECON UN1105 PRINCIPLES OF ECONOMICS MATH UN1201 CALCULUS III or UN1205
ECON UN3213 INTERMEDIATE MACROECONOMICS	ECON UN1105 PRINCIPLES OF ECONOMICS MATH UN1101 CALCULUS I Co-requisite: MATH UN1201 CALCULUS III or UN1205
ECON UN3412 INTRODUCTION TO ECONOMETRICS	MATH UN1201 CALCULUS III or UN1205 ECON UN3211 INTERMEDIATE MICROECONOMICS or UN3213 STAT UN1201 CALC-BASED INTRO TO STATISTICS
ECON 2000-level electives	ECON UN1105 PRINCIPLES OF ECONOMICS
ECON GU4211 ADVANCED MICROECONOMICS	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS MATH UN2010 LINEAR ALGEBRA Corequisites: MATH UN2500 ANALYSIS AND OPTIMIZATION or GU4061



ECON GU4412 ADVANCED ECONOMETRICS  
 ECON GU4213 ADVANCED MACROECONOMICS  
 ECON GU4413 Econometrics of Time Series and Forecasting  
 ECON UN3025 FINANCIAL ECONOMICS  
 ECON GU4020 ECON OF UNCERTAINTY # INFORMTN  
 ECON GU4230 ECONOMICS OF NEW YORK CITY  
 ECON GU4260 MARKET DESIGN  
 ECON GU4280 CORPORATE FINANCE  
 ECON GU4370 POLITICAL ECONOMY  
 ECON GU4700 FINANCIAL CRISES  
 ECON GU4710 FINANCE AND THE REAL ECONOMY  
 ECON GU4850 COGNITIVE MECH # ECON BEHAVIOR  
 ECON GU4860 BEHAVIORAL FINANCE

All other ECON 3000- and 4000-level electives

ECON UN3901 ECONOMICS OF EDUCATION  
 ECON UN3952 MACROECONOMICS#FORMATION OF EXPECTATIONS  
 ECON UN3981 APPLIED ECONOMETRICS  
 ECON GU4911 MICROECONOMICS SEMINAR  
 ECON GU4913 MACROECONOMICS SEMINAR  
 ECON GU4918 SEMINAR IN ECONOMETRICS  
 ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS

ECPH GU4950 ECONOMICS # PHILOSOPHY

Barnard electives

ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3412 INTRODUCTION TO ECONOMETRICS  
 MATH UN2010 LINEAR ALGEBRA

ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 STAT UN1201 CALC-BASED INTRO TO STATISTICS

ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3412 INTRODUCTION TO ECONOMETRICS (Co-requisite)

ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3412 INTRODUCTION TO ECONOMETRICS

ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3412 INTRODUCTION TO ECONOMETRICS  
 ECON GU4370 POLITICAL ECONOMY

ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3412 INTRODUCTION TO ECONOMETRICS

See Barnard bulletin

It is **strongly recommended** that students take ECON UN3412 INTRODUCTION TO ECONOMETRICS in the semester **immediately** following the completion of the statistics course.

### Grading

No course with a grade of D or lower, including calculus and statistics courses, can count toward the major, concentration, or interdepartmental majors. Economics core courses with a grade of D or F must be retaken and completed with a grade of C- or better.

Students who receive a grade of D or F in a core course are permitted to take a higher-level elective course that has that core course as a prerequisite, so long as it is taken concurrently with the retaking of that core course. For example, if a student fails ECON UN3211 INTERMEDIATE MICROECONOMICS, the student must retake it and, in the same semester, may enroll in an elective course for which it is a prerequisite, provided that all other prerequisites for the elective have been completed. The same rule applies to the required math and statistics courses. For example, if a student fails *MATH UN1201 CALCULUS III*, the student may retake calculus III concurrently with *Intermediate Microeconomics*. Students who must retake any core economics or math course may not retake it concurrently with a senior seminar; the economics core courses *ECON UN3211 INTERMEDIATE MICROECONOMICS*, *ECON UN3213 INTERMEDIATE MACROECONOMICS*, and *ECON UN3412 INTRODUCTION TO ECONOMETRICS* must be successfully completed before a student may enroll in a seminar.

A grade of W is not equivalent to a grade of D or F; it does not qualify a student to retake the course concurrently with a higher level course that lists the course as a prerequisite. Students who receive a grade of W in a core course must complete the course with a grade of C- or better before taking a course that lists it as a prerequisite.

Only ECON UN1105 PRINCIPLES OF ECONOMICS may be taken for a grade of Pass/D/Fail, and the student must receive a grade of P for it to count towards the requirements for the major, concentration, or interdepartmental majors.

### Economics Electives

Only those courses identified in the Economics Department listings in this Bulletin may be taken for elective credit. All 3000-level or higher electives offered by the Economics Department have ECON UN3211 INTERMEDIATE MICROECONOMICS and ECON UN3213 INTERMEDIATE MACROECONOMICS as prerequisites. However, some electives have additional prerequisites and students should ensure that all prerequisites have been completed (see the table of prerequisites printed above). *Seminars do not count as electives.*

### Seminars

Seminars can be taken only after all of the required core courses in economics have been successfully completed. Students may not take or re-take ECON UN3211 INTERMEDIATE MICROECONOMICS, ECON UN3213 INTERMEDIATE MACROECONOMICS, or ECON UN3412 INTRODUCTION TO ECONOMETRICS concurrently with any senior seminar. *Seminars do not count as electives.* Each seminar is limited to sixteen students, with priority given to seniors. For ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS and ECPH GU4950 ECONOMICS # PHILOSOPHY, priority is given to economics-political science and economics-philosophy majors, respectively.

For seminar registration details, read the information posted on the department's *Senior Seminar Registration* page: <http://econ.columbia.edu/senior-seminars-registration>.

### Mathematics

Students must consult with the Mathematics Department for the appropriate placement in the calculus sequence. Students must complete one of the following sequences:

Select one of the following sequences:

MATH UN1101 & MATH UN1201	CALCULUS I and CALCULUS III
MATH UN1101 & MATH UN1205	CALCULUS I and ACCELERATED MULTIVARIABLE CALC
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

In addition:

1. Students who receive a grade of D or F in MATH UN1201 CALCULUS III or MATH UN1205 must retake the course, but may enroll in ECON UN3211 INTERMEDIATE MICROECONOMICS.
2. Students who receive a grade of D or F in MATH UN1207 HONORS MATHEMATICS A may either retake the course, or take MATH UN1201 CALCULUS III or MATH UN1205, and enroll in ECON UN3211 INTERMEDIATE MICROECONOMICS concurrently.

### Statistics

Unless otherwise specified below, all students must take STAT UN1201 CALC-BASED INTRO TO STATISTICS, or a higher level course, such as STAT GU4204 STATISTICAL INFERENCE, or STAT GU4001.

### Barnard Courses

A limited number of Barnard economics electives may count toward the major, concentration, and interdepartmental majors. Students should pay careful attention to the limit of Barnard electives indicated in their program requirements. Please see the *Transfer Credit* section below for information on the number of Barnard electives that may be taken to fulfill major requirements. In addition, students may receive credit for the major, concentration, and interdepartmental majors only for those Barnard economics courses listed in this Bulletin. However, students may not receive credit for two courses whose content overlaps. Barnard and Columbia economics electives with overlapping content include but are not limited to:

ECON BC3029 & ECON GU4321	EMPIRICAL APPROACHES DEVLPMNT and ECONOMIC DEVELOPMENT
ECON BC3038 & ECON GU4505	INTERNATIONAL MONEY # FINANCE and INTERNATIONAL MACROECONOMICS
ECON BC3019 & ECON GU4400	LABOR ECONOMICS and LABOR ECONOMICS
ECON BC3047 & ECON GU4500	International Trade and INTERNATIONAL TRADE
ECON BC3039 & ECON GU4625	Environmental and Natural Resource Economics and ECONOMICS OF THE ENVIRONMENT
ECON BC3041 & ECON GU4235	THEORETICL FOUNDTNS-POLIT ECON and HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes
ECON GU4400	LABOR ECONOMICS
ECON GU4235	HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes

Students should always first consult with *econ-advising* to confirm that the Barnard elective they wish to take does not overlap with a Columbia elective that they have already taken or plan to take. Students may *not* take the Barnard core economics, math, statistics, or seminar courses for credit towards the completion of major requirements.

### School of Professional Studies Courses

The Department of Economics does not accept *any* of the courses offered through the School of Professional Studies for credit towards the economics major, concentration, or interdepartmental majors with the exception of the courses offered by the Economics Department during the summer session at Columbia.

### Other Department and School Courses

Please note that with the exception of the above Barnard courses and the specific courses listed below for the financial economics major, no other courses offered through the different departments and schools at Columbia count toward the economics majors or concentration.

### Transfer Credits

Students are required to take a minimum number of courses in the Columbia Economics Department. For all majors and interdepartmental majors, students must complete a minimum of *five* lecture courses in the Columbia department. Students may fulfill their remaining requirements for economics lecture courses through AP (or IB or GCE) credits, Barnard electives, transfer courses, and study abroad courses (the latter two are subject to the approval of the Economics Department). The following table summarizes the new rules:

Program	Number of required economics lecture courses	Minimum number which must be taken in the department	Maximum number of outside allowed
Economics major	9	5	4
Financial economics	8	5	3
Economics-mathematics	7	5	2
Economics-political science	7	5	2
Economics-statistics	7	5	2
Economics-philosophy	7	5	2
Economics concentration	7	4	3

1. **Lecture courses** do not include seminars, which must be taken in the Columbia Economics Department. The lecture course counts are counts of economics courses only and do **not** include math, statistics, or courses in other departments;
2. At least two of the three 3000-level economics core courses must be taken in the department and no corresponding Barnard courses are accepted. ECON UN3025 FINANCIAL ECONOMICS and ECON UN3265 MONEY AND BANKING are counted as departmental courses regardless of the instructor;

3. **Outside courses** include AP (or IB or GCE) credits, transfer credits, Barnard 2000- and 3000-level elective courses and transfer credits from other universities. In the case where two or more courses taken outside of Columbia are used as the equivalent of ECON UN1105 PRINCIPLES OF ECONOMICS, those courses are counted as one transfer course.
4. At least one of the core finance courses, ECON UN3025 FINANCIAL ECONOMICS and ECON GU4280 CORPORATE FINANCE, must be taken at Columbia.

**Approval of transfer credits** to fulfill economics requirements must be obtained in writing from the Department of Economics (see the [departmental website](#) or speak with your advising dean for information regarding applications for transfer credit). Approval is granted only for courses that are considered to be comparable to those offered at Columbia.

**Summer courses** taken at other institutions must be approved in writing by the department's transfer credit adviser before the course is taken. The department does not accept transfer credits for any 3000 level core courses taken during a summer session outside of Columbia University. Summer courses taken from the department of economics at Columbia University do not need approval.

**Guidelines and instructions** on how to request transfer credit approval can be found in the *Transfer Credit Information* page of the [departmental website](#).

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## Major in Economics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The economics major requires a minimum of 35 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of at least 44 points as follows:

**Economics Core Courses**

All economics core courses

**Mathematics**

Select a mathematics sequence

**Statistics**

Select a statistics course

**Economics Electives**

Select at least five electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

**Economics Seminar**

Select one economics seminar course

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## Major in Financial Economics

Please read **Required Coursework for all Programs** above.

The Department of Economics offers the major in financial economics, which provides an academic framework to explore the role of financial markets and intermediaries in the allocation (and mis-allocation) of capital. Among the topics studied in financial economics are financial markets, banks and other financial intermediaries, asset valuation, portfolio allocation, regulation and corporate governance.

The financial economics major requires 26 points in economics, 6 points in mathematics, 3 points in statistics, 3 points in business, and 12 points from a list of selected courses for a total minimum of 50 points as follows:

**Economics Core Courses**

All economics core courses

**Finance Core Courses** \*

ECON UN3025	FINANCIAL ECONOMICS
ECON GU4280	CORPORATE FINANCE
BUSI UN3013	FINANCIAL ACCOUNTING

\*NOTE: The department considers BUSI UN3013, IEOR E2261 and ECON UN2261 as overlapping courses. Students who take these three courses shall be credited with one course only. Financial economics majors who are also in the Business Management concentration program (CNBUMG) must take an additional elective from either the financial economics prescribed elective list (below) or from the CNBUMB prescribed list.

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Electives

Select four of the following, of which two must be from the Columbia or Barnard economics departments, or equivalent economics transfer credits:

ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON UN3265	MONEY AND BANKING
ECON UN3901	ECONOMICS OF EDUCATION
ECON UN3952	MACROECONOMICS#FORMATION OF EXPECTATIONS
ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
ECON GU4213	ADVANCED MACROECONOMICS
ECON GU4251	INDUSTRIAL ORGANIZATION
ECON GU4260	MARKET DESIGN
ECON GU4412	ADVANCED ECONOMETRICS
ECON GU4415	GAME THEORY
or ECON BC3080	Applied Game Theory
ECON GU4465	PUBLIC ECONOMICS
or ECON BC3026	Economics of the Public Sector
ECON GU4500	INTERNATIONAL TRADE
or ECON BC3047	International Trade
ECON GU4505	INTERNATIONAL MACROECONOMICS
or ECON BC3038	INTERNATIONAL MONEY # FINANCE
ECON G4526	Transition Reforms, Globalization and Financial Crisis
ECON GU4615	LAW AND ECONOMICS
ECON GU4630	Climate Finance
ECON GU4700	FINANCIAL CRISES
ECON GU4710	FINANCE AND THE REAL ECONOMY
ECON GU4840	BEHAVIORAL ECONOMICS
or ECON BC3048	Introduction to Behavioral Economics
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
ECON GU4860	BEHAVIORAL FINANCE
BIOT GU4180	ENTREPRENEURSHIP IN BIOTECH
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON BC3043	Monetary Theory # Policy
BUSI UN3021	MARKETING MANAGEMENT
BUSI UN3701	STRATEGY FORMULATION
BUSI UN3702	VENTURING TO CHANGE THE WORLD
BUSI UN3703	LEADERSHIP IN ORGANIZATION
BUSI UN3704	Making History Through Venturing
COMS W1002	COMPUTING IN CONTEXT
HIST W2904	History of Finance
IEOR E4106	STOCHASTIC MODELS
IEOR E4700	INTRO TO FINANCIAL ENGINEERING
MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GR5010	INTRO TO THE MATH OF FINANCE



POLS UN3630	POLITCS OF INTL ECON RELATIONS
STAT W3201	Math Finance in Continuous Time
STAT GU4261	STATISTICAL METHODS IN FINANCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance

**Seminar**

The seminar must be chosen from a list of seminars eligible for the financial economics major. The department indicates which seminars are eligible for the major on the Senior Seminars page of the departmental website.

Students must have completed at least one of ECON UN3025 or ECON GU4280 prior to taking their senior seminar.

- \* 1) Students must complete the finance core no later than fall of their senior year. 2) At least one of the core finance courses, ECON UN3025 and ECON GU4280, must be taken at Columbia.

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## Major in Economics-Mathematics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The major in economics and mathematics provides students with a grounding in economic theory comparable to that provided by the general economics major and exposes students to rigorous and extensive training in mathematics. The program is recommended for any student planning to do graduate work in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Mathematics has an assigned adviser with whom students may consult on mathematics requirements. The economics adviser can only advise on economics requirements; the mathematics adviser can only advise on mathematics requirements.

The economics-mathematics major requires a total of 52 or 56 points (depending on mathematics sequence) : 29 points in economics and 23-27 points in mathematics and statistics as follows:

**Economics Core Courses**

All economics core courses

**Economics Electives**

Select three electives at the 3000-level or above

**Mathematics**

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

Note: Students who take MATH UN1205 may not receive credit for both MATH UN1201 and MATH UN1202.

Analysis requirement:

MATH UN2500	ANALYSIS AND OPTIMIZATION
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Select three of the following:

MATH UN1202	CALCULUS IV
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS

Any mathematics course at the 3000-level or above

Note: Students who take MATH UN1205 will not receive credit for MATH UN1202.

**Statistics**

Select one of the following sequences:

STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS
STAT GU4203 & STAT GU4204	PROBABILITY THEORY and STATISTICAL INFERENCE

### Economics Seminar

Select an economics seminar

### NOTE:

1. Students who fulfill the statistics requirement with STAT GU4203 and STAT GU4204, may count STAT GU4203 or STAT GU4204 as one of the three required mathematics electives.
2. Students who choose the one year sequence (STAT GU4203/ STAT GU4204), must complete the year long sequence *prior* to taking ECON UN3412. Students receive elective credit for the probability course.

## Major in Economics-Philosophy

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

Economics-philosophy is an interdisciplinary major that introduces students to basic methodologies of economics and philosophy and stresses areas of particular concern to both, e.g. rationality and decision making, justice and efficiency, freedom and collective choice, logic of empirical theories and testing. Many issues are dealt with historically. Classic texts of Plato, Kant, Mill, Marx, and Smith are reviewed.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Philosophy has an assigned adviser with whom students may consult on philosophy requirements. The economics adviser can only advise on economics requirements; the philosophy adviser can only advise on philosophy requirements.

The economics-philosophy major requires a total minimum of 54 points: 25 points in economics, 16 points in philosophy, 6 points in mathematics, 3 points in statistics, and 4 points in the interdisciplinary seminar as follows:

### Economics Core Courses

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Economics Electives

Three Electives are required; two must be selected from the below list, and the remaining elective may be any economics elective at the 3000-level or above.

ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
ECON UN3901	ECONOMICS OF EDUCATION
ECON GU4211	ADVANCED MICROECONOMICS
ECON GU4213	ADVANCED MACROECONOMICS
ECON GU4228	URBAN ECONOMICS
ECON GU4230	ECONOMICS OF NEW YORK CITY
ECON GU4235	HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes
or ECON BC3041	THEORETICAL FOUNDATIONS-POLIT ECON
ECON GU4260	MARKET DESIGN
ECON GU4301	ECONOMIC GROWTH # DEVELOPMENT I
ECON GU4321	ECONOMIC DEVELOPMENT
or ECON BC3029	EMPIRICAL APPROACHES DEVELOPMENT

ECON GU4370	POLITICAL ECONOMY
ECON GU4400	LABOR ECONOMICS
or ECON BC3019	LABOR ECONOMICS
ECON GU4415	GAME THEORY
or ECON BC3080	Applied Game Theory
ECON GU4438	ECONOMICS OF RACE IN THE U.S.
ECON GU4465	PUBLIC ECONOMICS
or ECON BC3026	Economics of the Public Sector
ECON GU4480	GENDER # APPLIED ECONOMICS
ECON GU4500	INTERNATIONAL TRADE
or ECON BC3047	International Trade
ECON GU4615	LAW AND ECONOMICS
ECON GU4625	ECONOMICS OF THE ENVIRONMENT
or ECON BC3039	Environmental and Natural Resource Economics
ECON GU4630	Climate Finance
ECON GU4750	GLOBALIZATION # ITS RISKS
ECON GU4840	BEHAVIORAL ECONOMICS
or ECON BC3048	Introduction to Behavioral Economics
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
ECON BC3011	INEQUALITY AND POVERTY
<b>Philosophy Courses</b>	
PHIL UN1010	METHDS/PROB OF PHILOS THOUGHT
PHIL UN3411	SYMBOLIC LOGIC
PHIL UN3701	ETHICS
PHIL UN3551	PHILOSOPHY OF SCIENCE
or PHIL UN3960	EPISTEMOLOGY
PHIL GU4561	PROBABILITY # DECISION THEORY
<b>Seminar</b>	
ECPH GU4950	ECONOMICS # PHILOSOPHY

**Students who declared before Spring 2014:** The requirements for this program were modified in 2014. Students who declared this program before Spring 2014 should contact the director of undergraduate studies for the department in order to confirm their options for major requirements.

## Major in Economics–Political Science

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

Political economy is an interdisciplinary major that introduces students to the methodologies of economics and political science and stresses areas of particular concern to both. This program is particularly beneficial to students planning to do graduate work in schools of public policy and international affairs.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Political Science has an assigned adviser with whom students may consult on political science requirements. The economics adviser can only advise on economics requirements; the political science adviser can only advise on political science requirements.

The economics–political science major requires a total of 59 points: 22 points in economics, 17 points in political science, 6 points in mathematics, 6 points in statistical methods, 4 points in a political science seminar, and 4 points in the interdisciplinary seminar as follows.

The political science courses are grouped into four areas, i.e. subfields: (1) American Politics, (2) Comparative Politics, (3) International Relations, and (4) Political Theory. For the political science part of the major, students are required to select one

area as a major subfield and one as a minor subfield. The corresponding introductory courses in both subfields must be taken, plus two electives in the major subfield, and one in the minor subfield.

### Economics Core Courses

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON GU4370	POLITICAL ECONOMY

### Mathematics

Select a mathematics sequence

### Statistical Methods

STAT UN1201	CALC-BASED INTRO TO STATISTICS
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Select one of the following:

ECON UN3412	INTRODUCTION TO ECONOMETRICS
POLS GU4712	PRINC OF QUANT POL RESEARCH 2

### Economics Electives

Select two electives (6 points) at the 3000-level or above

### Political Science Courses

Students must choose a Primary Subfield and a Secondary Subfield to study. The subfields are as follows: American Politics (AP), Comparative Politics (CP), International Relations (IR), and Political Theory (PT).

Primary Subfield: Minimum three courses, one of which must be the subfield's introductory course.

Secondary Subfield: Minimum two courses, one of which must be the subfield's introductory course.

### Seminars

Students must take the following two seminars:

ECPS GU4921	SEMINAR IN POLITICAL ECONOMICS
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and a Political Science Department seminar, in the student's Primary Subfield. Please select one of the following: \*

POLS UN3911	SEMINAR IN POLITICAL THEORY
or POLS UN3912	SEMINAR IN POLITICAL THEORY
POLS UN3921	AMERICAN POLITICS SEMINAR
or POLS UN3922	AMERICAN POLITICS SEMINAR
POLS UN3951	COMPARATIVE POLITICS SEMINAR
or POLS UN3952	Seminar in Comparative Politics
POLS UN3961	INTERNATIONAL POLITICS SEMINAR
or POLS UN3962	INTERNATIONAL POLITICS SEMINAR

- Students who wish to count toward the political science seminar requirement a course that is not in the above list of approved seminars must obtain permission from the political science Director of Undergraduate studies. Barnard colloquia can count for seminar credit only with the written permission of the Director of Undergraduate Studies. Note that admission to Barnard colloquia is by application to the Barnard political science department only.

## Major in Economics-Statistics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The major in economics-statistics provides students with a grounding in economic theory comparable to that provided by the general economics major, but also exposes students to a significantly more rigorous and extensive statistics training than is provided by the general major. This program is recommended for students with strong quantitative skills and for those contemplating graduate studies in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Statistics has an assigned adviser with whom students may consult on statistics requirements. The economics adviser can only advise on economics requirements; the statistics adviser can only advise on statistics requirements.

The economics-statistics major requires a total of 59 points: 29 in economics, 15 points in statistics, 12 points in mathematics, 3 points in computer science as follows:

#### Economics Core Courses

All economics core courses

#### Economics Electives

Select three electives at the 3000-level or above

#### Mathematics

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

#### Statistics

STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS

One elective in statistics from among courses numbered STAT GU 4206 through GU 4266.

#### Computer Science

Select one of the following:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
COMS W1007	
ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
STAT UN2102	Applied Statistical Computing

#### Economics Seminar

ECON GU4918	SEMINAR IN ECONOMETRICS
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**Students who declared before Spring 2014:** The requirements for this program were modified in 2014. Students who declared this program before Spring 2014 should contact the director of undergraduate studies for the department in order to confirm their options for major requirements.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Economics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The economics concentration requires a minimum of 25 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of at least 34 points as follows:

#### Economics Core Courses

All economics core courses

#### Mathematics

Select a mathematics sequence

#### Statistics

Select a Statistics course



**Economics Electives**

Select at least three electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

# ECONOMICS - STATISTICS

## ECONOMICS DEPARTMENT:

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Director of Undergraduate Studies: Dr. Susan Elmes, 1006 International Affairs Building; 212-854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)

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## THE STUDY OF ECONOMICS

Economics is the study of the ways in which society allocates its scarce resources among alternative uses and the consequences of these decisions. The areas of inquiry deal with a varied range of topics such as international trade, domestic and international financial systems, labor market analysis, and the study of less developed economies. Broadly speaking, the goal of an economics major is to train students to think analytically about social issues and, as such, provide a solid foundation for not only further study and careers in economics, but also for careers in law, public service, business, and related fields.

The Economics Department offers a general economics major in addition to five interdisciplinary majors structured to suit the interests and professional goals of a heterogeneous student body. All of these programs have different specific requirements but share the common structure of core theoretical courses that provide the foundation for higher-level elective courses culminating in a senior seminar. Students are urged to carefully look through the details of each of these programs and to contact an appropriate departmental advisor to discuss their particular interests.

## STUDENT ADVISING

The Department of Economics offers a variety of advising resources to provide prospective and current undergraduate majors and concentrators with the information and support needed to successfully navigate through the program. These resources are described below.

### Consulting Advisors

For answers to the most common questions that students have about the majors, the department has graduate student advisors, who are available by e-mail at [econ-advising@columbia.edu](mailto:econ-advising@columbia.edu), or during weekly office hours to meet with students.

Students should direct all questions and concerns about any economic program to the graduate student advisors either in person or via e-mail. The graduate student advisors can discuss major requirements, scheduling, and major course selection, as well as review student checklists and discuss progress in the major. Occasionally, graduate student advisors may refer a student to someone else in the department (such as the director of undergraduate studies) or in the student's school for additional advising.

Contact information and office hours for the graduate student advisors are posted on the Advisors page [Advisors page](#) of the departmental website in the week prior to the beginning of the semester. Students considering one of the interdepartmental majors should speak to both a graduate student advisor from the Economics Department and the advisor from the other department early in the sophomore year.

### Faculty Advisors

Faculty advisors are available only to declared majors. They are able to discuss students' academic and career goals, both in terms of the undergraduate career and post-graduate degrees and research. Students wishing to discuss these types of substantive topics may request a faculty advisor by completing the google form available on the [Advisors page](#) of the departmental website.

The department does its best to match students with faculty members that share similar academic interests. While faculty advisors do not discuss major requirements—that is the role of the graduate student advisors—they do provide guidance in course selection as it relates to meeting a student's intellectual goals and interests, as well as advise on career and research options. It is recommended that students who plan on attending a Ph.D. program in economics or are interested in pursuing economics research after graduation request a faculty advisor.

## Enrolling in Classes

### Prerequisites

The Department strictly enforces all course prerequisites. Prerequisite courses cannot be taken concurrently with or after the course—they must be taken before the course. Students who take a course out of sequence (before or concurrently with its prerequisites) will not be allowed to count those credits towards the completion of their major, and consequently will be required to take an additional course to replace those credits. For placement in the calculus sequence, please consult the Math department's section of the Bulletin. The list of Prerequisites for Econ courses can be found on the [Course Prerequisites](#) page of the Dept. website.

### Registration for Restricted Classes

Most lecture courses are open to online Registration. However, Seminars, Research Courses, Independent Study and Corporate Finance are restricted. Information regarding Seminar Registration can be found on the [Senior Seminar Registration](#) page. Registration information for Research Course credit, Independent Study and Corporate Finance can be found on the [Registration Information](#) page.

## Preparing for Graduate Study

On the [Preparing for Graduate School](#) page on our website, you will find general advice for students thinking about pursuing a PhD in economics. All students who are considering graduate work should review the material posted there. Since graduate work requires more mathematical and statistical training than the economics major, students interested in graduate work should speak with econ-advising about planning their course schedule.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

AP tests must be taken in both microeconomics and macroeconomics, with a score of 5 on one test and at least a 4 on the other. Provided that this is achieved, the department grants 4 credits for a score of 4 and 5 on the AP Economics exam along with exemption from [ECON UN1105 PRINCIPLES OF ECONOMICS](#).

### IB Credit or GCE A Level Exams

If you took the IB Exam and received either a 6 or a 7 or if you took GCE A Level Exams and received an A or a B, then you will receive credit from the college. Those credits will automatically exempt you from the Principles requirement.

## Barnard College Courses

Barnard Economics Core Courses and seminars do NOT count towards the Columbia Economics Major or concentration. Specifically, the following courses will NOT count toward your major program:

[ECON BC1003](#), [ECON BC1007](#), [ECON BC2411](#), [ECON BC3018](#), [ECON BC3033](#), [ECON BC3035](#).

The Barnard courses listed below will count as Electives toward your Economics Major provided you have completed the course prerequisites, have not taken an equivalent course in the Columbia Department, and have fulfilled the minimum requirement of taking 5 lecture courses in the Columbia Department.

### Economics (Barnard)

ECON BC2010	The Economics of Gender
ECON BC2012	Economic History of Western Europe
ECON BC2017	INTRODUCTION TO HEALTH ECONOMICS
ECON BC2020	Introduction to Development Economics
ECON BC2075	Logic and Limits of Economic Justice
ECON BC2224	CODING MARKETS

ECON BC3010	American Wellbeing
ECON BC3011	INEQUALITY AND POVERTY
ECON BC3012	THE ECONOMICS OF EDUCATION
ECON BC3013	Economic History of the United States
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON BC3019	LABOR ECONOMICS
ECON BC3027	Economics of Inequality
ECON BC3022	Economic History of Europe
ECON BC3023	Topics in Economic History
ECON BC3024	MIGRATION # ECONOMIC CHANGE
ECON BC3026	Economics of the Public Sector
ECON BC3029	EMPIRICAL APPROACHES DEVLPMNT
ECON BC3031	Economics of Life
ECON BC3038	INTERNATIONAL MONEY # FINANCE
ECON BC3039	Environmental and Natural Resource Economics
ECON BC3041	THEORETICL FOUNDTNS-POLIT ECON
ECON BC3045	BUSINESS CYCLES
ECON BC3047	International Trade
ECON BC3049	Economic Evaluation of Social Programs
ECON BC3270	Topics in Money and Finance
ECON UN3025	FINANCIAL ECONOMICS
ECON UN3265	MONEY AND BANKING

#### NOTES:

- 1) ECON UN2261 Accounting and Finance for Economics does NOT count as an economics elective. Financial Economics majors may take this course to fulfill their accounting requirement.
- 2) The above list is not necessarily complete. Barnard Department on occasion adds new lecture courses. If you have a question about a Barnard elective course not listed above, then you should contact econ-advising@columbia.edu.

### Transfer Courses

Any courses taken outside of the Economics Departments at Columbia or Barnard that you would like to apply towards the completion of your economics degree must be approved by the Department of Economics in addition to approval by your school. All majors and joint majors are required to take a minimum of 5 lecture courses from the Columbia Department of Economics and must take their senior seminar at Columbia.

See the [Transfer Credit Information](#) page for details on which courses may be eligible for transfer credit, as well as information on how to apply for transfer credit. Please read the information carefully before submitting your materials for review.

### Study Abroad Courses

All students who plan to study abroad must contact Sunil Gulati during the prior semester to get preliminary approval for any economics courses that they intend to take abroad. Students should also review the information posted on the [Transfer Credit Information](#) page for details regarding which courses may be eligible.

### Summer Courses

All students who hope to take classes in the Summer outside of Columbia University must also contact Sunil Gulati in advance to get preliminary approval for any economics courses. Note that students must also have approval from their school to take Summer courses outside of Columbia.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

All majors write a research paper in either a senior seminar or in the honors seminar. Each semester the department offers a wide range of senior seminars (see [Senior Seminar Descriptions](#) for the seminars currently on offer). Seminars are small, discussion-based courses focused on a research topic in economics. Students are expected to attend and participate in these courses, as well as to write an original research paper. Registration information for senior seminars is available on the [Senior Seminar Registration](#) page. Some students will write a senior thesis in the Honors Seminar. Details about writing a senior thesis are below.

### Senior Thesis Coursework and Requirements

#### SENIOR HONORS THESIS

##### Honors Seminar

The honors seminar is a full-year course, and you will not receive a grade until you have completed both semesters. Completing both semesters satisfies your seminar requirement in the economics department. If you do not complete both semesters, however, you must take a senior seminar to graduate as a major. For details see the Senior Honors Thesis info on the [Honors and Prizes](#) page.

Students who successfully complete the Honors Seminar are eligible to graduate with departmental honors in economics.

### Undergraduate Research Outside of Courses

During the academic year, students may work as an RA with a faculty member or PhD student and receive 1 – 2 credits of either ECON GU4996 Research Credit or ECON GU4995 Research Credit (GU 4995 is for GS students only). Research positions typically entail an average of 3 hours of work per week per credit. Research credit may not be used as a substitute for elective or seminar requirements in the major and students will receive a letter grade for their work. Students considering graduate work or writing a senior thesis in economics should take one or more RA positions during their time at Columbia. Information on Research Credit (GU4995 and GU4996) is posted on the [Opportunities](#) page. Available RA positions are posted every semester on our WIKI page, [Econ Info For Students](#) (log-in required).

## DEPARTMENT HONORS AND PRIZES

### Departmental Honors

Economics majors and economics joint majors who wish to be considered for departmental honors in economics must:

1. Have at least a 3.7 GPA in their major courses;
2. Take ECON GU4999 Senior Honors Thesis Workshop (a one-year course);
3. Receive at least a grade of A- in ECON GU4999 Senior Honors Thesis Workshop.

Students must apply for admission to GU4999 and details regarding that application are included in the annual Summer Mailing sent to all students with a declared program in economics. Please note that ECON GU4999 Senior Honors Thesis Workshop may be taken to fulfill the seminar requirement for the economics major and all economics joint majors. Normally no more than 10% of graduating majors receive departmental honors in a given academic year. Please see the [Honors and Prizes](#) page on the department's website for more information.

### Undergraduate Prizes

All prize recipients are announced at the end of the spring semester each academic year.

#### Sanford S. Parker Prize

Established in 1980, this prize is awarded annually to a Columbia College graduating student who majored or concentrated in economics and plans on continuing his or her studies in an economics Ph.D. program within the two years following his or her graduation.

### **Romine Prize**

Established in 1997, this prize is awarded annually to two students (Columbia College or General Studies) majoring in economics: one for the best honors thesis paper, and the other for the best economics seminar paper.

### **Summer Research Prizes**

#### *Parker Summer Research Fellowship*

The Parker Summer Fellowship provides financial support for five Columbia College underclassmen who take unpaid summer internships that focus on research. Preference is given to students working with Columbia researchers but all CC students undertaking a summer research position are eligible to apply.

#### *GS Prize for Summer Research*

The GS Summer Fellowship provides financial support for 2 GS underclassmen who take unpaid summer internships that focus on research. Preference is given to students working with Columbia researchers but all GS students undertaking a summer research position are eligible to apply.

## **OTHER IMPORTANT INFORMATION**

### **Online Information**

Students can access useful information online, including but not limited to: a comprehensive FAQ page; transfer credit information; sample programs and checklists; faculty office hours, contact information and fields of specialization; advisor contact information; teaching and research assistant opportunities; a list of tutors; and current course offerings.

Posted on our [Announcements](#) page are links to the most important memos that we distribute to our majors including pre-registration mailings, the summer mailing and information for new majors. Our [WIKI](#) page has information about opportunities both inside and outside of the department. Login is required to access the WIKI page.

### **Frequently Asked Questions**

As a first step, students are encouraged to visit the Dept.'s [FAQ page](#), which provides comprehensive information and answers to the most frequently-asked questions about the departmental majors and requirements. This page also includes a section that answers specific questions of first-year students, sophomores, and non-majors.

## **PROFESSORS**

Douglas Almond (also School of International and Public Affairs)

Jushan Bai

Jagdish N. Bhagwati

Sandra Black (also School of International and Public Affairs)

Alessandra Casella (also Political Science Department)

Yeon-Koo Che

Pierre-André Chiappori

Graciela Chichilnisky

Richard Clarida (also School of International and Public Affairs)

Donald Davis

Prajit Dutta

Gautam Gowrisankaran

Harrison Hong

R. Glenn Hubbard (also Business School)

Navin Kartik

Wojciech Kopczuk (also School of International and Public Affairs)

Sokbae (Simon) Lee

Qingmin Liu

Suresh Naidu (also School of International and Public Affairs)

Serena Ng

Brendan O'Flaherty



Andrea Prat (also Business School)  
Jeffrey Sachs (also Earth Institute, School of International and Public Affairs, Dept of Health Policy and Management)  
Xavier Sala-i-Martin  
Bernard Salanié  
José A. Scheinkman  
Stephanie Schmitt-Grohé  
Joseph Stiglitz (also Business School, School of International and Public Affairs)  
Martín Uribe  
Miguel Urquiola (also School of International and Public Affairs)  
Eric Verhoogen (also School of International and Public Affairs)  
Ebonya Washington (also School of International and Public Affairs)  
David Weinstein  
Michael Woodford (Chair)

## ASSOCIATE PROFESSORS

Mark Dean  
Lena Edlund  
Jennifer La'O

## ASSISTANT PROFESSORS

Hassan Afrouzi  
Michael Best  
Matthieu Gomez  
Emilien Gouin-Bonenfant  
Elliot Lipnowski  
Neomie Pinardon-Touati  
Evan Sadler  
Pietro Tebaldi  
Jack Willis

## LECTURERS

Irasema Alonso  
Isaac Bjorke  
Tri Vi Dang  
Susan Elmes  
Seyhan Erden  
Tamrat Gashaw  
Sunil Gulati  
Waseem Noor

## ADJUNCT FACULTY

Qi Ge  
Claudia Halbac  
Karla Hoff  
Caterina Musatti

## ON LEAVE

Prof. Willis (2023-2024)  
Profs. Che, Gouin-Bonenfant, Hong, Lipnowski, Sadler, Washington *Fall 2023*)  
Profs. Casella, Schmitt-Grohe (*Spring 2024*)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

There are a number of resources to assist you in planning your program in economics.

- [Checklists](#) for all programs are available on our website.
- [Econ-advising](#) is available to assist all students with academic planning. They can be reached by email or in person during their office hours.
- Tentative annual course offerings are posted on the [website](#) and in departmental newsletters.
- Information for new students is posted on the [Academic Resources Fair](#) page.

### Course Numbering Structure

All economics programs begin with an introductory 1000 level course (Principles of Economics) and progress through the required 3000 level required core economics courses (Intermediate Micro, Intermediate Macro and Econometrics). Most elective courses are offered at the 3000 and 4000 level and all require that students have completed at least UN 3211 Int Micro and UN 3213 Int Macro. The department offers a limited number of 2000 level electives and these courses only require that students have completed Principles of Economics.

### Guidance for First-Year Students

Our [Academic Resources Fair](#) page has answers to the most common questions of new students at Columbia. On that page you will find information about advising, placement, course planning, opportunities in the department and much more. If you are interested in pursuing economics, then it is strongly recommended that you read through the information posted here.

### Guidance for Transfer Students

Our [Academic Resources Fair](#) page has answers to the most common questions of transfer students at Columbia. On that page you will find information about advising, placement, course planning, opportunities in the department and much more. If you are interested in pursuing economics, then it is strongly recommended that you read through the information posted here.

The [Transfer Credit](#) page has all of the information that you will need to apply for transfer credits for economics courses that you have taken elsewhere. Note that the economics department will also review your transfer credits for calculus I, statistics and accounting courses. Details about all of these courses are also posted at [Transfer Credit Information](#).

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

#### Checklists and Requirements

Checklists and Requirement information are available on the [Department website](#).

#### Economics Core Courses

**All** of the core courses must be completed **no later than the spring semester** of the student's **junior year** and must be taken at Columbia. *Students who take any core course during the fall semester of their senior year must obtain written permission from the department's director of undergraduate studies.* Unless otherwise specified below, all students must complete the following core courses:

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS

#### Prerequisites

Course prerequisites are strictly enforced. Prerequisites must be taken before the course, not after or concurrently.

Economics courses taken before the completion of any of its prerequisites, even with instructor approval, are **not** counted toward the major, concentration, or interdepartmental majors. Exemptions from a prerequisite requirement may only be made, in writing, by the department's director of undergraduate studies. Credits from a course taken *prior* to the completion of its prerequisites are **not** counted towards the major requirements. As a consequence, students are required to complete **additional**, specific courses in economics at the direction of the director of undergraduate studies.

The prerequisites for required courses are as follows:

Course	Prerequisites
ECON UN1105 PRINCIPLES OF ECONOMICS	None
MATH UN1101 CALCULUS I	
STAT UN1201 CALC-BASED INTRO TO STATISTICS	MATH UN1101 CALCULUS I
ECON UN3211 INTERMEDIATE MICROECONOMICS	ECON UN1105 PRINCIPLES OF ECONOMICS MATH UN1201 CALCULUS III or UN1205
ECON UN3213 INTERMEDIATE MACROECONOMICS	ECON UN1105 PRINCIPLES OF ECONOMICS MATH UN1101 CALCULUS I Co-requisite: MATH UN1201 CALCULUS III or UN1205
ECON UN3412 INTRODUCTION TO ECONOMETRICS	MATH UN1201 CALCULUS III or UN1205 ECON UN3211 INTERMEDIATE MICROECONOMICS or UN3213 STAT UN1201 CALC-BASED INTRO TO STATISTICS
ECON 2000-level electives	ECON UN1105 PRINCIPLES OF ECONOMICS
ECON GU4211 ADVANCED MICROECONOMICS	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS MATH UN2010 LINEAR ALGEBRA Corequisites: MATH UN2500 ANALYSIS AND OPTIMIZATION or GU4061
ECON GU4412 ADVANCED ECONOMETRICS	ECON UN3211 INTERMEDIATE MICROECONOMICS
ECON GU4213 ADVANCED MACROECONOMICS	ECON UN3213 INTERMEDIATE MACROECONOMICS
ECON GU4413 Econometrics of Time Series and Forecasting	ECON UN3412 INTRODUCTION TO ECONOMETRICS MATH UN2010 LINEAR ALGEBRA
ECON UN3025 FINANCIAL ECONOMICS	ECON UN3211 INTERMEDIATE MICROECONOMICS
ECON GU4020 ECON OF UNCERTAINTY # INFORMTN	ECON UN3213 INTERMEDIATE MACROECONOMICS
ECON GU4230 ECONOMICS OF NEW YORK CITY	STAT UN1201 CALC-BASED INTRO TO STATISTICS
ECON GU4260 MARKET DESIGN	
ECON GU4280 CORPORATE FINANCE	
ECON GU4370 POLITICAL ECONOMY	
ECON GU4700 FINANCIAL CRISES	
ECON GU4710 FINANCE AND THE REAL ECONOMY	
ECON GU4850 COGNITIVE MECH # ECON BEHAVIOR	
ECON GU4860 BEHAVIORAL FINANCE	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS ECON UN3412 INTRODUCTION TO ECONOMETRICS (Co-requisite)
All other ECON 3000- and 4000-level electives	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS

ECON UN3901 ECONOMICS OF EDUCATION  
 ECON UN3952 MACROECONOMICS#FORMATION OF EXPECTATIONS  
 ECON UN3981 APPLIED ECONOMETRICS  
 ECON GU4911 MICROECONOMICS SEMINAR  
 ECON GU4913 MACROECONOMICS SEMINAR  
 ECON GU4918 SEMINAR IN ECONOMETRICS  
 ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS

ECPH GU4950 ECONOMICS # PHILOSOPHY

Barnard electives

ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3412 INTRODUCTION TO ECONOMETRICS

ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3412 INTRODUCTION TO ECONOMETRICS  
 ECON GU4370 POLITICAL ECONOMY

ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3412 INTRODUCTION TO ECONOMETRICS

See Barnard bulletin

It is **strongly recommended** that students take ECON UN3412 INTRODUCTION TO ECONOMETRICS in the semester **immediately** following the completion of the statistics course.

### Grading

No course with a grade of D or lower, including calculus and statistics courses, can count toward the major, concentration, or interdepartmental majors. Economics core courses with a grade of D or F must be retaken and completed with a grade of C- or better.

Students who receive a grade of D or F in a core course are permitted to take a higher-level elective course that has that core course as a prerequisite, so long as it is taken concurrently with the retaking of that core course. For example, if a student fails ECON UN3211 INTERMEDIATE MICROECONOMICS, the student must retake it and, in the same semester, may enroll in an elective course for which it is a prerequisite, provided that all other prerequisites for the elective have been completed. The same rule applies to the required math and statistics courses. For example, if a student fails *MATH UN1201 CALCULUS III*, the student may retake calculus III concurrently with *Intermediate Microeconomics*. Students who must retake any core economics or math course may not retake it concurrently with a senior seminar; the economics core courses *ECON UN3211 INTERMEDIATE MICROECONOMICS*, *ECON UN3213 INTERMEDIATE MACROECONOMICS*, and *ECON UN3412 INTRODUCTION TO ECONOMETRICS* must be successfully completed before a student may enroll in a seminar.

A grade of W is not equivalent to a grade of D or F; it does not qualify a student to retake the course concurrently with a higher level course that lists the course as a prerequisite. Students who receive a grade of W in a core course must complete the course with a grade of C- or better before taking a course that lists it as a prerequisite.

Only ECON UN1105 PRINCIPLES OF ECONOMICS may be taken for a grade of Pass/D/Fail, and the student must receive a grade of P for it to count towards the requirements for the major, concentration, or interdepartmental majors.

### Economics Electives

Only those courses identified in the Economics Department listings in this Bulletin may be taken for elective credit. All 3000-level or higher electives offered by the Economics Department have ECON UN3211 INTERMEDIATE MICROECONOMICS and ECON UN3213 INTERMEDIATE MACROECONOMICS as prerequisites. However, some electives have additional prerequisites and students should ensure that all prerequisites have been completed (see the table of prerequisites printed above). *Seminars do not count as electives.*

### Seminars

Seminars can be taken only after all of the required core courses in economics have been successfully completed. Students may not take or re-take ECON UN3211 INTERMEDIATE MICROECONOMICS, ECON UN3213 INTERMEDIATE MACROECONOMICS, or ECON UN3412 INTRODUCTION TO ECONOMETRICS concurrently with any senior seminar. *Seminars do not count as electives.* Each seminar is limited to sixteen students, with priority given to seniors. For ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS and ECPH GU4950 ECONOMICS # PHILOSOPHY, priority is given to economics-political science and economics-philosophy majors, respectively.

For seminar registration details, read the information posted on the department's *Senior Seminar Registration* page: <http://econ.columbia.edu/senior-seminars-registration>.

## Mathematics

Students must consult with the Mathematics Department for the appropriate placement in the calculus sequence. Students must complete one of the following sequences:

Select one of the following sequences:

MATH UN1101 & MATH UN1201	CALCULUS I and CALCULUS III
MATH UN1101 & MATH UN1205	CALCULUS I and ACCELERATED MULTIVARIABLE CALC
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

In addition:

1. Students who receive a grade of D or F in MATH UN1201 CALCULUS III or MATH UN1205 must retake the course, but may enroll in ECON UN3211 INTERMEDIATE MICROECONOMICS.
2. Students who receive a grade of D or F in MATH UN1207 HONORS MATHEMATICS A may either retake the course, or take MATH UN1201 CALCULUS III or MATH UN1205, and enroll in ECON UN3211 INTERMEDIATE MICROECONOMICS concurrently.

## Statistics

Unless otherwise specified below, all students must take STAT UN1201 CALC-BASED INTRO TO STATISTICS, or a higher level course, such as STAT GU4204 STATISTICAL INFERENCE, or STAT GU4001.

## Barnard Courses

A limited number of Barnard economics electives may count toward the major, concentration, and interdepartmental majors. Students should pay careful attention to the limit of Barnard electives indicated in their program requirements. Please see the *Transfer Credit* section below for information on the number of Barnard electives that may be taken to fulfill major requirements. In addition, students may receive credit for the major, concentration, and interdepartmental majors only for those Barnard economics courses listed in this Bulletin. However, students may not receive credit for two courses whose content overlaps. Barnard and Columbia economics electives with overlapping content include but are not limited to:

ECON BC3029 & ECON GU4321	EMPIRICAL APPROACHES DEVLPMNT and ECONOMIC DEVELOPMENT
ECON BC3038 & ECON GU4505	INTERNATIONAL MONEY # FINANCE and INTERNATIONAL MACROECONOMICS
ECON BC3019 & ECON GU4400	LABOR ECONOMICS and LABOR ECONOMICS
ECON BC3047 & ECON GU4500	International Trade and INTERNATIONAL TRADE
ECON BC3039 & ECON GU4625	Environmental and Natural Resource Economics and ECONOMICS OF THE ENVIRONMENT
ECON BC3041 & ECON GU4235	THEORETICAL FOUNDATIONS-POLIT ECON and HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes
ECON GU4400	LABOR ECONOMICS
ECON GU4235	HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes

Students should always first consult with *econ-advising* to confirm that the Barnard elective they wish to take does not overlap with a Columbia elective that they have already taken or plan to take. Students may *not* take the Barnard core economics, math, statistics, or seminar courses for credit towards the completion of major requirements.

## School of Professional Studies Courses



The Department of Economics does not accept *any* of the courses offered through the School of Professional Studies for credit towards the economics major, concentration, or interdepartmental majors with the exception of the courses offered by the Economics Department during the summer session at Columbia.

### Other Department and School Courses

Please note that with the exception of the above Barnard courses and the specific courses listed below for the financial economics major, no other courses offered through the different departments and schools at Columbia count toward the economics majors or concentration.

### Transfer Credits

Students are required to take a minimum number of courses in the Columbia Economics Department. For all majors and interdepartmental majors, students must complete a minimum of *five* lecture courses in the Columbia department. Students may fulfill their remaining requirements for economics lecture courses through AP (or IB or GCE) credits, Barnard electives, transfer courses, and study abroad courses (the latter two are subject to the approval of the Economics Department). The following table summarizes the new rules:

Program	Number of required economics lecture courses	Minimum number which must be taken in the department	Maximum number of outside allowed
Economics major	9	5	4
Financial economics	8	5	3
Economics-mathematics	7	5	2
Economics-political science	7	5	2
Economics-statistics	7	5	2
Economics-philosophy	7	5	2
Economics concentration	7	4	3

1. **Lecture courses** do not include seminars, which must be taken in the Columbia Economics Department. The lecture course counts are counts of economics courses only and do **not** include math, statistics, or courses in other departments;
2. At least two of the three 3000-level economics core courses must be taken in the department and no corresponding Barnard courses are accepted. ECON UN3025 FINANCIAL ECONOMICS and ECON UN3265 MONEY AND BANKING are counted as departmental courses regardless of the instructor;
3. **Outside courses** include AP (or IB or GCE) credits, transfer credits, Barnard 2000- and 3000-level elective courses and transfer credits from other universities. In the case where two or more courses taken outside of Columbia are used as the equivalent of ECON UN1105 PRINCIPLES OF ECONOMICS, those courses are counted as one transfer course.
4. At least one of the core finance courses, ECON UN3025 FINANCIAL ECONOMICS and ECON GU4280 CORPORATE FINANCE, must be taken at Columbia.

**Approval of transfer credits** to fulfill economics requirements must be obtained in writing from the Department of Economics (see the [departmental website](#) or speak with your advising dean for information regarding applications for transfer credit). Approval is granted only for courses that are considered to be comparable to those offered at Columbia.

**Summer courses** taken at other institutions must be approved in writing by the department's transfer credit adviser before the course is taken. The department does not accept transfer credits for any 3000 level core courses taken during a summer session outside of Columbia University. Summer courses taken from the department of economics at Columbia University do not need approval.

**Guidelines and instructions** on how to request transfer credit approval can be found in the *Transfer Credit Information* page of the [departmental website](#).

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## Major in Economics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The economics major requires a minimum of 35 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of at least 44 points as follows:

#### **Economics Core Courses**

All economics core courses

#### **Mathematics**

Select a mathematics sequence

#### **Statistics**

Select a statistics course

#### **Economics Electives**

Select at least five electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

#### **Economics Seminar**

Select one economics seminar course

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## **Major in Financial Economics**

Please read **Required Coursework for all Programs** above.

The Department of Economics offers the major in financial economics, which provides an academic framework to explore the role of financial markets and intermediaries in the allocation (and mis-allocation) of capital. Among the topics studied in financial economics are financial markets, banks and other financial intermediaries, asset valuation, portfolio allocation, regulation and corporate governance.

The financial economics major requires 26 points in economics, 6 points in mathematics, 3 points in statistics, 3 points in business, and 12 points from a list of selected courses for a total minimum of 50 points as follows:

#### **Economics Core Courses**

All economics core courses

#### **Finance Core Courses \***

ECON UN3025	FINANCIAL ECONOMICS
-------------	---------------------

ECON GU4280	CORPORATE FINANCE
-------------	-------------------

BUSI UN3013	FINANCIAL ACCOUNTING
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\*NOTE: The department considers BUSI UN3013, IEOR E2261 and ECON UN2261 as overlapping courses. Students who take these three courses shall be credited with one course only. Financial economics majors who are also in the Business Management concentration program (CNBUMG) must take an additional elective from either the financial economics prescribed elective list (below) or from the CNBUMB prescribed list.

#### **Mathematics**

Select a mathematics sequence

#### **Statistics**

Select a statistics course

#### **Electives**

Select four of the following, of which two must be from the Columbia or Barnard economics departments, or equivalent economics transfer credits:

ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON UN3265	MONEY AND BANKING
ECON UN3901	ECONOMICS OF EDUCATION
ECON UN3952	MACROECONOMICS#FORMATION OF EXPECTATIONS
ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
ECON GU4213	ADVANCED MACROECONOMICS
ECON GU4251	INDUSTRIAL ORGANIZATION
ECON GU4260	MARKET DESIGN
ECON GU4412	ADVANCED ECONOMETRICS
ECON GU4415	GAME THEORY

or ECON BC3080	Applied Game Theory
ECON GU4465	PUBLIC ECONOMICS
or ECON BC3026	Economics of the Public Sector
ECON GU4500	INTERNATIONAL TRADE
or ECON BC3047	International Trade
ECON GU4505	INTERNATIONAL MACROECONOMICS
or ECON BC3038	INTERNATIONAL MONEY # FINANCE
ECON G4526	Transition Reforms, Globalization and Financial Crisis
ECON GU4615	LAW AND ECONOMICS
ECON GU4630	Climate Finance
ECON GU4700	FINANCIAL CRISES
ECON GU4710	FINANCE AND THE REAL ECONOMY
ECON GU4840	BEHAVIORAL ECONOMICS
or ECON BC3048	Introduction to Behavioral Economics
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
ECON GU4860	BEHAVIORAL FINANCE
BIOT GU4180	ENTREPRENEURSHIP IN BIOTECH
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON BC3043	Monetary Theory # Policy
BUSI UN3021	MARKETING MANAGEMENT
BUSI UN3701	STRATEGY FORMULATION
BUSI UN3702	VENTURING TO CHANGE THE WORLD
BUSI UN3703	LEADERSHIP IN ORGANIZATION
BUSI UN3704	Making History Through Venturing
COMS W1002	COMPUTING IN CONTEXT
HIST W2904	History of Finance
IEOR E4106	STOCHASTIC MODELS
IEOR E4700	INTRO TO FINANCIAL ENGINEERING
MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GR5010	INTRO TO THE MATH OF FINANCE
POLS UN3630	POLITCS OF INTL ECON RELATIONS
STAT W3201	Math Finance in Continuous Time
STAT GU4261	STATISTICAL METHODS IN FINANCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance

### Seminar

The seminar must be chosen from a list of seminars eligible for the financial economics major. The department indicates which seminars are eligible for the major on the Senior Seminars page of the departmental website.

Students must have completed at least one of ECON UN3025 or ECON GU4280 prior to taking their senior seminar.

- \* 1) Students must complete the finance core no later than fall of their senior year. 2) At least one of the core finance courses, ECON UN3025 and ECON GU4280, must be taken at Columbia.

## Major in Economics-Mathematics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The major in economics and mathematics provides students with a grounding in economic theory comparable to that provided by the general economics major and exposes students to rigorous and extensive training in mathematics. The program is recommended for any student planning to do graduate work in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Mathematics has an assigned adviser with whom students may consult on mathematics requirements. The economics adviser can only advise on economics requirements; the mathematics adviser can only advise on mathematics requirements.

The economics-mathematics major requires a total of 52 or 56 points (depending on mathematics sequence) : 29 points in economics and 23-27 points in mathematics and statistics as follows:

### Economics Core Courses

All economics core courses

### Economics Electives

Select three electives at the 3000-level or above

### Mathematics

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

Note: Students who take MATH UN1205 may not receive credit for both MATH UN1201 and MATH UN1202.

Analysis requirement:

MATH UN2500	ANALYSIS AND OPTIMIZATION
-------------	---------------------------

Select three of the following:

MATH UN1202	CALCULUS IV
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS

Any mathematics course at the 3000-level or above

Note: Students who take MATH UN1205 will not receive credit for MATH UN1202.

### Statistics

Select one of the following sequences:

STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS
STAT GU4203 & STAT GU4204	PROBABILITY THEORY and STATISTICAL INFERENCE

### Economics Seminar

Select an economics seminar

NOTE:

1. Students who fulfill the statistics requirement with STAT GU4203 and STAT GU4204, may count STAT GU4203 or STAT GU4204 as one of the three required mathematics electives.
2. Students who choose the one year sequence (STAT GU4203/ STAT GU4204), must complete the year long sequence *prior* to taking ECON UN3412. Students receive elective credit for the probability course.

## Major in Economics-Philosophy

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

Economics-philosophy is an interdisciplinary major that introduces students to basic methodologies of economics and philosophy and stresses areas of particular concern to both, e.g. rationality and decision making, justice and efficiency, freedom and collective choice, logic of empirical theories and testing. Many issues are dealt with historically. Classic texts of Plato, Kant, Mill, Marx, and Smith are reviewed.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Philosophy has an assigned adviser with whom students may consult on philosophy requirements. The economics adviser can only advise on economics requirements; the philosophy adviser can only advise on philosophy requirements.

The economics-philosophy major requires a total minimum of 54 points: 25 points in economics, 16 points in philosophy, 6 points in mathematics, 3 points in statistics, and 4 points in the interdisciplinary seminar as follows:

#### **Economics Core Courses**

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS

#### **Mathematics**

Select a mathematics sequence

#### **Statistics**

Select a statistics course

#### **Economics Electives**

Three Electives are required; two must be selected from the below list, and the remaining elective may be any economics elective at the 3000-level or above.

ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
ECON UN3901	ECONOMICS OF EDUCATION
ECON GU4211	ADVANCED MICROECONOMICS
ECON GU4213	ADVANCED MACROECONOMICS
ECON GU4228	URBAN ECONOMICS
ECON GU4230	ECONOMICS OF NEW YORK CITY
ECON GU4235	HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes
or ECON BC3041	THEORETICAL FOUNDATIONS-POLIT ECON
ECON GU4260	MARKET DESIGN
ECON GU4301	ECONOMIC GROWTH # DEVELOPMENT I
ECON GU4321	ECONOMIC DEVELOPMENT
or ECON BC3029	EMPIRICAL APPROACHES DEVELOPMENT
ECON GU4370	POLITICAL ECONOMY
ECON GU4400	LABOR ECONOMICS
or ECON BC3019	LABOR ECONOMICS
ECON GU4415	GAME THEORY
or ECON BC3080	Applied Game Theory
ECON GU4438	ECONOMICS OF RACE IN THE U.S.
ECON GU4465	PUBLIC ECONOMICS
or ECON BC3026	Economics of the Public Sector
ECON GU4480	GENDER # APPLIED ECONOMICS
ECON GU4500	INTERNATIONAL TRADE
or ECON BC3047	International Trade
ECON GU4615	LAW AND ECONOMICS
ECON GU4625	ECONOMICS OF THE ENVIRONMENT
or ECON BC3039	Environmental and Natural Resource Economics
ECON GU4630	Climate Finance
ECON GU4750	GLOBALIZATION # ITS RISKS
ECON GU4840	BEHAVIORAL ECONOMICS
or ECON BC3048	Introduction to Behavioral Economics
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
ECON BC3011	INEQUALITY AND POVERTY

#### **Philosophy Courses**



PHIL UN1010	METHDS/PROB OF PHILOS THOUGHT
PHIL UN3411	SYMBOLIC LOGIC
PHIL UN3701	ETHICS
PHIL UN3551	PHILOSOPHY OF SCIENCE
or PHIL UN3960	EPISTEMOLOGY
PHIL GU4561	PROBABILITY # DECISION THEORY
<b>Seminar</b>	
ECPH GU4950	ECONOMICS # PHILOSOPHY

**Students who declared before Spring 2014:** The requirements for this program were modified in 2014. Students who declared this program before Spring 2014 should contact the director of undergraduate studies for the department in order to confirm their options for major requirements.

## Major in Economics–Political Science

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

Political economy is an interdisciplinary major that introduces students to the methodologies of economics and political science and stresses areas of particular concern to both. This program is particularly beneficial to students planning to do graduate work in schools of public policy and international affairs.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Political Science has an assigned adviser with whom students may consult on political science requirements. The economics adviser can only advise on economics requirements; the political science adviser can only advise on political science requirements.

The economics–political science major requires a total of 59 points: 22 points in economics, 17 points in political science, 6 points in mathematics, 6 points in statistical methods, 4 points in a political science seminar, and 4 points in the interdisciplinary seminar as follows.

The political science courses are grouped into four areas, i.e. subfields: (1) American Politics, (2) Comparative Politics, (3) International Relations, and (4) Political Theory. For the political science part of the major, students are required to select one area as a major subfield and one as a minor subfield. The corresponding introductory courses in both subfields must be taken, plus two electives in the major subfield, and one in the minor subfield.

### Economics Core Courses

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON GU4370	POLITICAL ECONOMY

### Mathematics

Select a mathematics sequence

### Statistical Methods

STAT UN1201	CALC-BASED INTRO TO STATISTICS
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Select one of the following:

ECON UN3412	INTRODUCTION TO ECONOMETRICS
POLS GU4712	PRINC OF QUANT POL RESEARCH 2

### Economics Electives

Select two electives (6 points) at the 3000-level or above

### Political Science Courses

Students must choose a Primary Subfield and a Secondary Subfield to study. The subfields are as follows: American Politics (AP), Comparative Politics (CP), International Relations (IR), and Political Theory (PT).

Primary Subfield: Minimum three courses, one of which must be the subfield's introductory course.

Secondary Subfield: Minimum two courses, one of which must be the subfield's introductory course.

### Seminars

Students must take the following two seminars:

ECPS GU4921	SEMINAR IN POLITICAL ECONOMICS
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and a Political Science Department seminar, in the student's Primary Subfield. Please select one of the following: \*

POLS UN3911	SEMINAR IN POLITICAL THEORY
or POLS UN3912	SEMINAR IN POLITICAL THEORY
POLS UN3921	AMERICAN POLITICS SEMINAR
or POLS UN3922	AMERICAN POLITICS SEMINAR
POLS UN3951	COMPARATIVE POLITICS SEMINAR
or POLS UN3952	Seminar in Comparative Politics
POLS UN3961	INTERNATIONAL POLITICS SEMINAR
or POLS UN3962	INTERNATIONAL POLITICS SEMINAR

- Students who wish to count toward the political science seminar requirement a course that is not in the above list of approved seminars must obtain permission from the political science Director of Undergraduate studies. Barnard colloquia can count for seminar credit only with the written permission of the Director of Undergraduate Studies. Note that admission to Barnard colloquia is by application to the Barnard political science department only.

## Major in Economics-Statistics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The major in economics-statistics provides students with a grounding in economic theory comparable to that provided by the general economics major, but also exposes students to a significantly more rigorous and extensive statistics training than is provided by the general major. This program is recommended for students with strong quantitative skills and for those contemplating graduate studies in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Statistics has an assigned adviser with whom students may consult on statistics requirements. The economics adviser can only advise on economics requirements; the statistics adviser can only advise on statistics requirements.

The economics-statistics major requires a total of 59 points: 29 in economics, 15 points in statistics, 12 points in mathematics, 3 points in computer science as follows:

### Economics Core Courses

All economics core courses

### Economics Electives

Select three electives at the 3000-level or above

### Mathematics

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

### Statistics

STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS

One elective in statistics from among courses numbered STAT GU 4206 through GU 4266.

**Computer Science**

Select one of the following:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
COMS W1007	
ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
STAT UN2102	Applied Statistical Computing

**Economics Seminar**

ECON GU4918	SEMINAR IN ECONOMETRICS
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**Students who declared before Spring 2014:** The requirements for this program were modified in 2014. Students who declared this program before Spring 2014 should contact the director of undergraduate studies for the department in order to confirm their options for major requirements.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Economics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The economics concentration requires a minimum of 25 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of at least 34 points as follows:

**Economics Core Courses**

All economics core courses

**Mathematics**

Select a mathematics sequence

**Statistics**

Select a Statistics course

**Economics Electives**

Select at least three electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

## EDUCATION\*

**\*Education is offered exclusively as a concentration.**

**Please note that the Education Studies major is currently being offered to Barnard College students only.**

701 Milstein Center  
212-854-7072  
[education@barnard.edu](mailto:education@barnard.edu)

Program Director/Chair: Professor Maria River Maulucci  
Department Administrator: Amy Shire  
([ashire@barnard.edu](mailto:ashire@barnard.edu))

## THE STUDY OF EDUCATION

The Barnard Education Program envisions education as an emancipatory human right that develops people's capacities to think critically and act creatively for peace, justice, and sustainability in local and global contexts. Education is a fundamental human activity that occurs in

formal and informal settings as people interact within their social, historical, and physical environments. The program educates students to draw on interdisciplinary research and perspectives in order to critically analyze the role of education in society, and to create and sustain equitable educational practices and policies for all.

## PROGRAMS OF STUDY

The Barnard Education Program is committed to strengthening public education and addressing issues of equity and social justice, particularly in urban schools. We offer two tracks in Education: Education Studies (Major and Minor/Special Concentration), and Urban-Teaching Minors/Special Concentration (that leads to teacher certification in Elementary/Childhood Education or Secondary-Adolescent Education). In all tracks, students develop critical lenses to understand education as a fundamental human activity that occurs across many settings; to analyze the issues facing public schools; and to consider ways to promote fair and inclusive policies and practices for children and youth. The

classes are open to all undergraduates at Columbia (BC, SEAS, GS, CC). The two tracks we offer are:

### Education Studies

Education Studies is an interdisciplinary program for students who wish to understand, critically analyze, and conduct research on the role of education in society. Our students draw on a wide range of theoretical and empirical scholarship to study education as a social, cultural, and historical process. We understand education as much more than schooling, even as schooling is central to many of our concerns. Students who pursue the major or the minor/special concentration in Education Studies learn to evaluate educational policy, practice, and research through a critical, equity-oriented lens. Our graduates will be prepared to act creatively for peace, justice, and sustainability in local and global educational contexts. Education Studies prepares students to pursue graduate studies or positions in public policy, sociology, history, youth studies, philosophy, psychology, and other areas where K-12 education is frequently a focus of coursework and scholarship, as well as to pursue teacher certification through a graduate program. Education Studies does not lead to teacher certification.

**Education Studies Major:** The Education Studies major is designed for students whose primary interest is in pursuing Education as their major course of study. Education Studies majors concentrate in one of three areas: Education, Culture, and Society; Educational Policy; or Comparative and International Education. In their senior year, they conduct an original inquiry project. Currently, the major in Education Studies is open to Barnard College students only.

**Education Studies Minor/Special Concentration:** Education Studies minors (BC) or special concentrations (CC, GS) pursue similar coursework to that undertaken by the majors. This course of study is intended to complement a major's disciplinary specialization and methodological training. In addition to the requirements of the minor/special concentration, students must complete a major. The special concentration minors are open to all students at Barnard College, Columbia College, and College of General Studies.

For further information, and to apply to the major or minor tracks, please visit our [website](#)

### Urban Teaching Minors/Special Concentrations

This track is for students who want to graduate from college with teacher certification. Our goal is to prepare students to become skilled and reflective teachers who can effectively respond to the learning needs of diverse learners, and create supportive and intellectually stimulating classroom communities. Students learn to create innovative curriculum; gain experience observing, tutoring, and teaching a diverse range of children and young people; develop confidence in their role as teachers who can promote fair and inclusive

school practices; and graduate with certification to teach in New York.

This program is registered by the New York State Department of Education and accredited by the Association for Advancing Quality in Educator Preparation (AAQEP). Students who complete the program will be recommended for Initial Certification in either Childhood Education (Grades 1-6) or Adolescent Education (Grades 7-12). We provide ongoing support to program completers through our Barnard Teacher Network.

To apply to the Urban Teaching tracks, please visit our [website](#). Students are encouraged to apply for admission by March of the sophomore year but no later than April 30th of their sophomore year. Those who plan to study abroad during junior year should apply by the spring of the freshman year, but no later than the first Tuesday in September of the sophomore year. Admission criteria include good academic standing; evidence of commitment to the field of education; interest in issues of social justice issues as they affect education, particularly in urban schools; and capacity for growth as an intellectually resourceful and reflective teacher. Enrollment is limited.

### **Professors**

Maria Rivera Maulucci (Program Director/Chair)  
Thea Abu El-Haj

### **Assistant Professors**

Nora Gross  
Amelia Herbert (joint appointment with Urban Studies)

### **Senior Lecturer and Certification Officer**

Lisa Edstrom

### **Term Assistant Professors**

Drew Chambers  
Fawziah Qadir

### **Adjunct Instructors**

Ishrat Ahmed  
Orubba Almansouri

Althea Hoard  
Ileana Jimenez  
Rachel Throop

## **REQUIREMENTS FOR THE EDUCATION STUDIES MAJOR**

To complete the Major (BC) in Education Studies, students must complete a minimum of 40 points of course work, listed below. *Please note that the Education Studies major is currently being offered to Barnard College students only.*

The Education Studies track requires a minimum of eleven courses:

#### Requirement A - Foundational Coursework

EDUC BC1510	FOUNDATIONS OF EDUCATION
URBS UN3310	RACE, SPACE, URB SCHOOLS

#### Requirement B - Field Experience

Select one of the following:

EDUC BC3050	SCIENCE IN THE CITY
EDUC BC3052	MATH # THE CITY
EDUC BC3055	ARTS AND HUMANITIES IN THE CITY:CRITICAL
EDUC BC3058	SCIENCE IN THE CITY II
SOCI UN3974	SOCI OF SCHOOLS,TEACH,LEARNING

#### Requirement C - Concentration Courses

Select 6 of the following: At least 2 courses must be EDUC courses. Course selection to be determined with adviser.

EDUC BC3032	INVESTIGATING THE PURPOSES AND AIMS OF EDUCATION POLICY
EDUC BC3042	GENDER, SEXUALITY, AND SCHOOL
EDUC BC3045	COMPLICATING CLASS: EDUCATION AND THE LIMITS OF EQUITY
EDUC BC3040	MIGRATION, GLOBALIZATION, AND EDUCATION
EDUC BC3250	EDUCATION IN A POLARIZED AND UNEQUAL SOCIETY
EDUC BC3044	EDUCATION AND SOCIAL CHANGE IN COMPARATIVE GLOBAL CONTEXTS
EDUC BC3034	Families, Communities, and Schools
EDUC BC3030	Critical Pedagogies
PHIL UN2100	Philosophy of Education
SOCI UN3225	SOCIOLOGY OF EDUCATION
ECON BC3012	THE ECONOMICS OF EDUCATION
PSYC BC2134	Educational Psychology
CSER UN3928	COLONIZATION/ DECOLONIZATION
HRTS UN3001	INTRODUCTION TO HUMAN RIGHTS

**Other Courses** You may count other electives not listed here toward the Concentration Courses requirement. These courses must be reviewed with your adviser before enrollment.

#### Requirement D - Senior Capstone

EDUC BC3088	Senior Research Seminar: Methods of Inquiry
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EDUC BC3089	Senior Research Seminar: Inquiry
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## REQUIREMENTS FOR THE URBAN TEACHING MINORS/SPECIAL CONCENTRATIONS

### Elementary/Childhood Education (To Teach Grades 1-6)

This program leads to New York State Initial Certification in Childhood Education (Grades 1- 6). In addition to the liberal arts major, students must complete a total of 32-34 credits as follows:

**Requirement A - Educational Foundations** For students who have already taken EDUC BC3032, PHIL UN2100, SOCI UN3225, or ECON BC3012 to fulfill Requirement A prior to Fall 2018 do not need to enroll in EDUC BC1510 to fulfill the requirement.

EDUC BC1510	FOUNDATIONS OF EDUCATION	4
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#### Requirement B - Psychology

Select one of the following: 3-4.5

PSYC BC1115	Cognitive Psychology
PSYC BC1129	Developmental Psychology
PSYC BC2134	Educational Psychology
PSYC UN1420	RESEARCH METHODS - HUMAN BEHAVIOR *

#### Requirement C - Pedagogical Elective

Select one of the following:

EDUC BC3050	SCIENCE IN THE CITY
EDUC BC3052	MATH # THE CITY
EDUC BC3055	ARTS AND HUMANITIES IN THE CITY:CRITICAL
EDUC BC3058	SCIENCE IN THE CITY II

#### Requirement D - Pedagogical Core

EDUC BC3025	INCLUSIVE APPROACHES TO TEACHING LITERACY: THEORY AND PRACTICE	4
EDUC BC3053	MULTICULTURAL ELEMENTARY PEDA	4
EDUC BC3063	STUDENT TEACHING/ URBAN SCHOOLS	6
EDUC BC3064	SEM: ISSUES URBAN TEACHING	4

#### Requirement E - Liberal Arts and Sciences

Visit <https://education.barnard.edu/UrbanTeaching/LiberalArtsandSciencesRequirements> for more information.

#### Requirement F - Clinical Experiences

Visit <https://education.barnard.edu/UrbanTeaching/ClinicalExperiences> for more information.

\* Courses offered at Columbia



Note: Senior year student teaching may conflict with other opportunities at Barnard (e.g., PSYC BC3465 Field Work # Research Seminar: Toddler Center, PSYC BC3466 FIELD WORK # RESEARCH SEMINAR: TODDLER CENTER). Students with these interests should arrange their schedules accordingly.

## Secondary/Adolescent Education (To Teach Grades 7-12)

This program leads to the New York State Initial Certification in Adolescent Education (Grades 7-12) in the fields of English, Foreign and Ancient Languages, Mathematics, the Sciences, and Social Studies. Students must complete a total of 32-34 credits from the following course of study:

**Requirement A - Educational Foundations** <sup>For students who have already taken EDUC BC3032, PHIL UN2100, SOCI UN3225, or ECON BC3012 to fulfill Requirement A prior to Fall 2018 do not need to enroll in EDUC BC1510 to fulfill the requirement.</sup>

EDUC BC1510	FOUNDATIONS OF EDUCATION	4
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### Requirement B - Psychology

Select one of the following: 3-4.5

PSYC BC1107	Psychology of Learning
PSYC BC1115	Cognitive Psychology
PSYC BC1129	Developmental Psychology
PSYC BC2134	Educational Psychology
PSYC BC3382	ADOLESCENT PSYCHOLOGY
PSYC UN1420	RESEARCH METHODS - HUMAN BEHAVIOR *

### Requirement C - Pedagogical Elective

Select one of the following:

EDUC BC3050	SCIENCE IN THE CITY
EDUC BC3052	MATH # THE CITY
EDUC BC3055	ARTS AND HUMANITIES IN THE CITY: CRITICAL
EDUC BC3058	SCIENCE IN THE CITY II

### Requirement D - Pedagogical Core

EDUC BC3025	INCLUSIVE APPROACHES TO TEACHING LITERACY: THEORY AND PRACTICE	4
EDUC BC3054	MULTICULTURAL SECONDARY PEDAG	4.00
EDUC BC3065	SECONDARY STU TCHNG URB SCHLS	6.00
EDUC BC3064	SEM: ISSUES URBAN TEACHING	4
EDUC BC3061	ASSESSMENT OF TEACHING	3.00

### Requirement E - Liberal Arts and Sciences

Visit <https://education.barnard.edu/UrbanTeaching/LiberalArtsandSciencesRequirements> for more information.

### Requirement F - Clinical Experiences

Visit <https://education.barnard.edu/UrbanTeaching/ClinicalExperiences> for more information.

### Additional Urban Teaching Certification

#### Requirements: Adolescent/Secondary

Students seeking certification in Adolescent Education must also complete 36 credits in the content area for which they seek certification. Typically, students major in the subject area for which they are seeking certification. Students must earn a grade of C or better for each course taken in the content core.

#### English:

A total of 36 credits of English.

#### Foreign Languages:

A total of 36 credits in French, German, Greek, Italian, Latin, or Spanish.

#### Mathematics:

A total of 36 credits of Mathematics.

#### Science:

A total of 36 credits in sciences including a minimum of 18 credits of collegiate-level study in the science or each of the sciences for which certification is sought: Biology, Chemistry, Physics, or Earth Science. Please note that psychology does not count as a science for NYS Teacher Certification. \*\*

#### Social Studies:

A total of 36 credits, including 6 credits of American History; 6 credits of European or World History; 3 credits of non-Western study; and any other distribution to make 36 credits, chosen from credits in History, Political Science, Anthropology, Sociology, and Economics.

\* Courses offered at Columbia

\*\*Please note that some applied science courses will not be accepted.

## Certification Requirements

The Urban Teaching program is accredited by AAQEP and approved by the New York State Education Department to recommend students who complete the program for Initial Certification in either Childhood Education (grades 1-6) or Adolescent Education (grades 7-12). New York State has reciprocity with most other states, allowing graduates of the program the ability to apply for certification in another state through our membership in the Interstate Certification Agreement.

Certification is based on demonstrated competency in both academic and field settings. Students are required to complete a minimum of 360 hours of educational based clinical experiences. 260+ hours must be supervised field based experiences. Students must pass the New York State Teacher Certification Examinations and the edTPA performance assessment. Also required are workshops in Child Abuse Identification; School Violence Intervention

and Prevention; and the Dignity for All Students Act (DASA), offered at Teachers College.

## REQUIREMENTS FOR THE EDUCATION STUDIES MINOR/SPECIAL CONCENTRATION

To complete the Minor (BC) or Special Concentration (CC/GS) in Education Studies, students must complete 21-24 points of course work, listed below.

The Education Studies track requires a minimum of six courses:

### Requirement A - Educational Foundations

EDUC BC1510	FOUNDATIONS OF EDUCATION	4
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### Requirement B - Educational Electives

Select three of the following: One Educational Elective course must be an EDUC course.

EDUC BC3030	Critical Pedagogies
EDUC BC3032	INVESTIGATING THE PURPOSES AND AIMS OF EDUCATION POLICY
EDUC BC3034	Families, Communities, and Schools
EDUC BC3040	MIGRATION, GLOBALIZATION, AND EDUCATION
EDUC BC3042	GENDER, SEXUALITY, AND SCHOOL
EDUC BC3044	EDUCATION AND SOCIAL CHANGE IN COMPARATIVE GLOBAL CONTEXTS
EDUC BC3045	COMPLICATING CLASS: EDUCATION AND THE LIMITS OF EQUITY
EDUC BC3250	EDUCATION IN A POLARIZED AND UNEQUAL SOCIETY
URBS UN3310	RACE. SPACE, URB SCHOOLS
AMST UN3931	Topics in American Studies (Sec. 002: Race, Poverty, and American Criminal Justice or Sec. 003: Equity in Higher Education)
CSER UN3928	COLONIZATION/ DECOLONIZATION
ECON BC3012	THE ECONOMICS OF EDUCATION
PHIL UN2100	Philosophy of Education
PSYC BC2134	Educational Psychology
PSYC BC3363	PEDAGOGY HIGHER EDUC:PSYCH
PSYC BC3382	ADOLESCENT PSYCHOLOGY

SOCI UN3225	SOCIOLOGY OF EDUCATION
SOCI W3923	Adolescent Society
SOCI UN3974	SOCI OF SCHOOLS,TEACH,LEARNING *

### Requirement C - Pedagogical Elective

Select one of the following:

EDUC BC3050	SCIENCE IN THE CITY
EDUC BC3052	MATH # THE CITY
EDUC BC3055	ARTS AND HUMANITIES IN THE CITY:CRITICAL
EDUC BC3058	SCIENCE IN THE CITY II

### Requirement D - Pedagogical Core

EDUC BC3051	SEMINAR URBAN EDUCATION	4
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\* Courses offered at Columbia

## REQUIREMENTS FOR THE URBAN TEACHING SPECIALIZATION

Urban Studies majors who wish to pursue certification should apply to the Education Program by the spring of their freshman year. We encourage students to plan carefully if they wish to pursue this option.

Urban Studies majors who have selected Urban Teaching as their area of specialization within the major should complete the following:

### Requirement A - Educational Foundations

EDUC BC1510	FOUNDATIONS OF EDUCATION	4
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### Requirement B - Psychology

Select one of the following:

PSYC BC1107	Psychology of Learning
PSYC BC1115	Cognitive Psychology
PSYC BC1129	Developmental Psychology
PSYC BC2134	Educational Psychology
PSYC BC3382	ADOLESCENT PSYCHOLOGY
PSYC UN1420	RESEARCH METHODS - HUMAN BEHAVIOR *

### Requirement C - Field Studies

Select one of the following:

EDUC BC3050	SCIENCE IN THE CITY
EDUC BC3052	MATH # THE CITY
EDUC BC3055	ARTS AND HUMANITIES IN THE CITY:CRITICAL
EDUC BC3058	SCIENCE IN THE CITY II
SOCI UN3974	SOCI OF SCHOOLS,TEACH,LEARNING *

### Requirement D - Pedagogical Core

EDUC BC3025	INCLUSIVE APPROACHES TO TEACHING LITERACY: THEORY AND PRACTICE	4
EDUC BC3053	MULTICULTURAL ELEMENTARY PEDA	4
or EDUC BC3054	MULTICULTURAL SECONDARY PEDAG	

\* Courses offered at Columbia

## REQUIREMENTS FOR THE URBAN EDUCATION SPECIALIZATION

Urban Studies majors who have selected Urban Education as their area of specialization within the major should complete the following:

### Requirement A - Educational Foundations

EDUC BC1510	FOUNDATIONS OF EDUCATION	4
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### Requirement B - Educational Electives

Select two of the following:

EDUC BC3030	Critical Pedagogies
EDUC BC3032	INVESTIGATING THE PURPOSES AND AIMS OF EDUCATION POLICY
EDUC BC3034	Families, Communities, and Schools
EDUC BC3040	MIGRATION, GLOBALIZATION, AND EDUCATION
EDUC BC3042	GENDER, SEXUALITY, AND SCHOOL
EDUC BC3044	EDUCATION AND SOCIAL CHANGE IN COMPARATIVE GLOBAL CONTEXTS
EDUC BC3045	COMPLICATING CLASS: EDUCATION AND THE LIMITS OF EQUITY
EDUC BC3250	EDUCATION IN A POLARIZED AND UNEQUAL SOCIETY
URBS UN3310	RACE, SPACE, URB SCHOOLS
PHIL UN2100	Philosophy of Education
SOCI UN3225	SOCIOLOGY OF EDUCATION
ECON BC3012	THE ECONOMICS OF EDUCATION

### Requirement C - Field Studies

Select one of the following:

EDUC BC3050	SCIENCE IN THE CITY
EDUC BC3052	MATH # THE CITY
EDUC BC3055	ARTS AND HUMANITIES IN THE CITY:CRITICAL
EDUC BC3058	SCIENCE IN THE CITY II

SOCI UN3974	SOCI OF SCHOOLS,TEACH,LEARNING
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### Requirement D - Capstone

EDUC BC3051	SEMINAR URBAN EDUCATION	4
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\* Courses offered at Columbia

\*EDUC BC3030 *Critical Pedagogies* can count towards the Education Electives **or** the Pedagogical Elective requirement in Spring 2021 only.

## ENGLISH

### THE ENGLISH AND COMPARATIVE LITERATURE DEPARTMENT:

**Departmental Office:** 602 Philosophy Hall; 212-854-3215  
<http://www.english.columbia.edu>

#### Director of Undergraduate Studies:

Prof. Nicholas Dames, 603 Philosophy;  
212-854-4016; [nicholas.dames@columbia.edu](mailto:nicholas.dames@columbia.edu)

#### Undergraduate Coordinator: Alexa

Adams, 602 Philosophy; 212-854-6295;  
[enclundergraduatecoordinator@columbia.edu](mailto:enclundergraduatecoordinator@columbia.edu)

### THE STUDY OF ENGLISH AND COMPARATIVE LITERATURE

The program in English fosters the ability to read critically and imaginatively, to appreciate the power of language to shape thought and represent the world, and to be sensitive to the ways in which literature is created and achieves its effects. It has several points of departure, grounding the teaching of critical reading in focused attention to the most significant works of English literature, in the study of the historical and social conditions surrounding literary production and reception, and in theoretical reflection on the process of writing and reading and the nature of the literary work.

The courses the department offers draw on a broad range of methodologies and theoretical approaches, from the formalist to the political to the psychoanalytical (to mention just a few). Ranging from the medieval period to the 21st century, the department teaches major authors alongside popular culture, traditional literary genres alongside verbal forms that cut across media, and canonical British literature alongside postcolonial, global, and trans-Atlantic literatures.

At once recognizing traditional values in the discipline and reflecting its changing shape, the major points to three organizing principles for the study of literature—history, genre, and geography. Requiring students not only to take a wide variety of courses but also to arrange their thinking

about literature on these very different grids, the major gives them broad exposure to the study of the past, an understanding of the range of forms that can shape literary meaning, and an encounter with the various geographical landscapes against which literature in English has been produced.

## STUDENT ADVISING

### Consulting Advisers

Questions about coursework or program requirements can be addressed to the department's **Undergraduate Coordinator**, to the **Director of Undergraduate Studies (DUS)**, or to any member of the department's **Committee on Undergraduate Education (CUE)**. The DUS and CUE are the department's de facto academic advisors, and hold open office hours each week to offer guidance to majors, minors, and concentrators, as well as those interested in declaring in future.

Newly-declared majors or minors should make an **appointment with the DUS or a CUE member** to discuss their academic plans as soon as possible after declaration.

They should also contact the Undergraduate Coordinator and request that their names be added to the department's **listserv**, which disseminates information and updates about courses, events, deadlines, and other matters.

Throughout the year, the CUE will also organize dedicated **information sessions** about graduate study, professional development, fellowship and prize applications, and more.

## COURSE INFORMATION

### Lectures

Generally, lectures are addressed to a broad audience and do not assume previous course work in the area, unless prerequisites are noted in the description. The size of some lectures is limited. Senior majors have preference unless otherwise noted, followed by junior majors, followed by senior and junior non-majors. Students are responsible for checking for any special registration procedures on-line at <https://english.columbia.edu/content/course-listings>.

### Seminars

The department regards seminars as opportunities for students to do advanced undergraduate work in fields in which they have already had some related course experience. With the exception of some *CLEN* classes (in which, as comparative courses, much material is read in translation), students' admission to a seminar presupposes their having taken ENGL UN2000 Approaches to Literary Study. During the three weeks preceding the registration period, students should check <https://english.columbia.edu/content/course-listings> for application instructions for individual seminars. Applications to seminars are usually due by the end of the week preceding registration. Students should always assume that the instructor's permission is necessary; those who

register without having secured the instructor's permission are not guaranteed admission.

## UNDERGRADUATE RESEARCH OPPORTUNITIES

### Independent Study Projects

During the regular academic semester, students may design and undertake an individualized Independent Study with the sponsorship of a faculty member, in order to pursue a particular interest that is not represented in a given semester's course offerings.

Most Independent Study projects are awarded 3 points of academic credit, but proposals can stipulate anywhere from 1-4 points, depending on workload. For guidance on course points, see [here](#).

To propose an Independent Study, please complete [this form](#) and submit it to the Undergraduate Coordinator no later than two weeks prior to the start of classes, for review by the DUS and CUE.

Note that you **cannot register** for an independent study without official departmental approval.

### The Richmond Williams Travelling Fellowship

The Williams Fellowship supports summer research projects requiring foreign travel, with grants of up to \$6000.00. The competition is open to any Columbia College junior majoring in English and Comparative Literature. Recipients of the award must undertake a significant piece of independent scholarship based on their research in the senior year – either as an independent study, or as part of the Senior Essay program. The application can be found on the department website [here](#). Note: it is highly recommended that applicants review Columbia's [Undergraduate International Travel Policy](#) before and during the application process.

### The Humanities Research Scholars Program

The Humanities Research Scholars Program (HRSP) offers a select group of rising juniors at Columbia College the opportunity to pursue independent research projects and to develop analytical and investigative skills that will serve them well in any future endeavor. This program is designed to help students learn from one another as well as from leaders in the academic and professional world, and to support students in their intellectual pursuits and their future growth. It focuses on students interested in research in the humanities or humanistic social sciences.

Humanities Research Scholars will engage in two main pursuits over the course of one summer session of research: (1) the development of knowledge, skills, and approaches to the study of the humanities that will be transferable to any professional field; and (2) the development of an



independent research project over six weeks of the summer that allows the exploration of a specific topic with guidance from a faculty member.

Learn more about the HRSP [here](#).

### Other opportunities

The Undergraduate Research and Fellowships office frequently posts opportunities for research across fields, [here](#). Within English, faculty occasionally seek research assistants for help on specific projects; such calls for research assistants are usually made through the departmental listserv.

## THE SENIOR ESSAY PROGRAM

The Senior Essay program is an opportunity for majors in English and Comparative Literature to explore some literary topic of special interest to them in depth. Essay projects typically involve extensive critical reading and/or original research, and result in a piece of written work (approximately 10,000 words) that constitutes a substantial critical or scholarly argument.

To undertake a Senior Essay, students must first register for the fall research methods seminar, ENGL UN3795. In the spring, essayists then continue work on their projects with the guidance of a dedicated faculty advisor, and submit their final drafts in April. Examples of past Senior Essays in English can be found [here](#).

Note that English majors are **not required** to write a Senior Essay (although it is a requirement for eligibility for Departmental Honors).

## DEPARTMENTAL HONORS AND ACADEMIC PRIZES

### Departmental Honors:

Each year, in consultation with the faculty, the CUE awards Departmental Honors to no more than 10% of graduating majors. Honors are determined on the basis of the Senior Essay, as well as performance in departmental coursework and participation in departmental culture.

### Academic Prizes:

The English department awards numerous prizes for critical and creative writing each year; information about these prizes can be found [here](#).

## THE DEGREE AUDIT REPORTING SYSTEM (DARS)

The DAR is a useful tool for students to monitor their progress toward degree requirements, but it is not an official document for the major or concentration, nor should it replace consultation with departmental advisers. The department's director of undergraduate studies is the final authority on whether requirements for the major have been

met. Furthermore, the DAR may be inaccurate or incomplete for any number of reasons—for example, courses taken elsewhere and approved for credit do not show up on the DAR report as fulfilling a specific requirement.

Students should fill out a Major Requirements Worksheet early in the semester preceding graduation. The worksheet must be reviewed by an adviser and submitted to 602 Philosophy before the registration period for the final semester. The worksheet is available in the English Department or on the department website [here](#).

## ONLINE INFORMATION

Other departmental information—faculty office hours, registration instructions, late changes, etc.—is available on the [departmental website](#).

## PROFESSORS

James Eli Adams  
 Rachel Adams  
 Branka Arsić  
 Christopher Baswell (Barnard)  
 Sarah Cole  
 Julie Crawford  
 Denise Cruz  
 Nicholas Dames  
 Jenny Davidson  
 Andrew Delbanco  
 Kathy Eden  
 Brent Edwards  
 Stathis Gourgouris  
 Erik Gray  
 Farah Jasmine Griffin  
 Jack Halberstam  
 Matt Hart  
 Saidiya Hartman (University Professor)  
 Eleanor Johnson  
 Sharon Marcus  
 Edward Mendelson  
 Frances Negrón-Muntaner  
 Robert O'Meally  
 Julie Peters  
 Ross Posnock  
 Austin E. Quigley  
 Bruce Robbins  
 James Shapiro  
 C. Riley Snorton (Visiting Professor)  
 Gayatri Chakravorty Spivak (University Professor)  
 Alan Stewart  
 Colm Tóibín  
 Gauri Viswanathan  
 William Worthen (Barnard)  
 David M. Yerkes



## ASSOCIATE PROFESSORS

Patricia Dailey  
T. Austin Graham  
Molly Murray  
Lauren Robertson  
Joseph Slaughter  
Dustin Stewart  
Dennis Tenen  
Jennifer Wenzel

## ASSISTANT PROFESSORS

Joseph Albernaz  
Zoë Lawson Henry  
Carlos Alonso Nugent  
Hannah Weaver

## LECTURERS

Sue Mendelsohn  
Aaron Ritzenberg  
Maura Spiegel  
Nicole B. Wallack

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

There are many paths through a degree in English and Comparative Literature, even within the requirements described below. Students considering a major or minor are encouraged to make an appointment with the DUS to discuss their particular interests and goals. They should also feel free to enroll in one of the department's gateway lectures (1000-level), which have no prerequisites. Students who are already embarked on a degree in English should also be sure to check in with the DUS or a member of CUE regularly to ensure that they complete their requirements in the most rewarding way possible.

### Enrolling in Courses

In the weeks before registration, the [departmental website](#) will continually update course information, including prerequisites and course caps. Please be sure to check each course's particular registration guidelines, as these can vary dramatically; for seminars, in particular, instructor permission is required for enrollment, and instructors will often require a specific application in order to consider any student for admission.

### Approaches to Literary Study

The introductory course ENGL UN2000 Approaches to Literary Study, together with its companion seminar, ENGL UN2001 Approaches to Literary Study Seminar, is required for the English major, minor, or concentration.

It should be taken by the end of the sophomore year. Fulfillment of this requirement is a factor in admission to seminars and to some lectures. This once-a-week faculty lecture, accompanied by a seminar led by an advanced graduate student in the department, is intended to introduce students to the study of literature. Students read works from the three major literary modes (lyric, drama, and narrative), drawn from premodern to contemporary literature, and learn interpretative techniques required by these various modes or genres. This course does not fulfill any distribution requirements.

### Course Numbering Structure

**1000-level:** Courses in this tier are broad gateway lectures, and do not require prior knowledge of or coursework in English.

**2000-level:** Courses in this tier are lectures focused on more specialized topics. These courses may have prerequisites at the instructors' discretion, and may also offer weekly discussion sections to complement lectures.

**3000-level:** Courses in this tier are seminars intended for English majors and minors (though others are welcome to apply), and are capped at 18 students. While particular seminars may have particular requirements for admission, seminar applicants are generally expected to have taken ENGL 2000: Approaches to Literary Study.

**4000-level:** Courses in this tier are advanced seminars, which require significantly more reading and writing than other courses offered by the department. Priority for enrollment will be given to senior English majors, although faculty may admit others (including graduate students) if space permits.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in English (for students who matriculated in 2023-4 and prior)

Please read *Guidelines for all English and Comparative Literature Majors and Concentrators* above.

#### At least 10 courses in English, including:

##### The Introductory Course

- **either** ENGL 3001: *Literary Texts and Critical Methods*, **or** ENGL 2000: *Approaches to Literary Study*

##### Distribution Requirements

- **one** course focused on **each** of the following **genres** (3 courses total): poetry, prose, drama/film/media

- **one** course focused on **each** of the following **geographical** areas (3 courses total): British, American, Global/Comparative
- **three** courses focused on literature **pre-1800** (only one of which can be a Shakespeare course)

(Designations of distribution requirements can be found on the department's course listings site; note that a single course can fulfill more than one distribution requirement; Shakespeare 1, for example, would cover British, drama, and one pre-1800).

## Major in English (for students who matriculated in 2024-5 and after)

At least 10 courses in English, including:

### The Introductory Course

- ENGL 2000: *Approaches to Literary Study*

### Distribution Requirements

- **one** course focused on **each** of the following **genres** (3 courses total): poetry, prose, drama/film/media
- **one** course focused on **each** of the following **geographical** areas (3 courses total): British, American, Global/Comparative
- **one** course focused on the study of **ethnicity and race**
- **two** courses focused on literature **pre-1700** (only one of which can be a Shakespeare course)
- **one** course focused on literature **1700-1900**
- **one** course focused on literature **1900-present**

(Designations of distribution requirements can be found on the department's course listings site; note that a single course can fulfill more than one distribution requirement; Shakespeare 1, for example, would cover British, drama, and one pre-1700).

### Capstone

either a Senior Essay **or** an advanced (4000-level) seminar

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## Minor in English

**Any 5 courses in English, including** ENGL 2000: *Approaches to Literary Study*. Students who wish to minor in English should meet with the DUS or CUE to plan out their particular course of study.

### Coursework Options and Restrictions

- **AP credits.** These cannot be counted toward the major/minor/concentration.
- **Barnard English Courses.** These can be applied to the major/minor/concentration without special approval for the first two courses, and with DUS approval for any additional courses. The DUS can also advise as to which distribution requirements are fulfilled by Barnard English courses.
- **Columbia Non-English courses.** Up to **two** related courses (of at least 3 credits each) can be counted toward the major or concentration, but **not** toward the minor. Such courses are typically offered by foreign-language departments, film, or creative writing – but other related courses can be accepted pending DUS approval. Note that **only** courses with designation ENGL or CLEN can be used to fulfill distribution requirements.
- **Core Courses.** Lit Hum, CC, UW, Art Hum, and Music Hum cannot be counted toward the major/minor/concentration. Global Core courses with a ENGL or CLEN designation can be counted toward the major/minor/concentration as well as toward College requirements.
- **Courses Taken Outside Columbia.** These can be counted toward the major or concentration, if they have been accepted by Columbia for transfer credit. Typically **no more than three** such courses can count toward the major or concentration, and **only one** can be applied to the minor. Transferred courses must be approved by the DUS, who can also help determine which distribution requirements they fulfill.
- **Independent Study and Senior Essay.** Only **one** independent study course (of at least 3 credits) can be counted toward the major/minor/concentration. The Senior Essay program (fall and spring) counts as **one** of the 10 courses required for the major.
- **P/D/F.** Only **one** course taken for a P/D/F grade can be counted toward the major/minor/concentration. Note that any course in which a student receives a grade of D or F cannot count toward the major/minor/concentration.
- **Summer Session.** Only **two** summer courses can be counted toward the major/minor/concentration.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in English

8 courses in English, including:

#### The Introductory Course

- **either** ENGL 3001: *Literary Texts and Critical Methods*, **or** ENGL 2000: *Approaches to Literary Study*

#### Distribution Requirements

- **one** course focused on any **two** of the following **genres** (2 courses total): poetry, prose, drama/film/media
- **one** course focused on any **two** of the following **geographical** areas (2 courses total): British, American, Global/Comparative
- **two** courses focused on literature **pre-1800** (only one of which can be a Shakespeare course)

(Designations of distribution requirements can be found on the department's course listings site; note that a single course can fulfill more than one distribution requirement; Shakespeare 1, for example, would cover British, drama, and one pre-1800.)

## COMPARATIVE LITERATURE PROGRAM

## ENVIRONMENTAL BIOLOGY

### ECOLOGY, EVOLUTION & ENVIRONMENTAL BIOLOGY :

Department website: <http://www.e3b.columbia.edu>

Office location: 1014 Schermerhorn Ext

Office contact: [e3badmin@columbia.edu](mailto:e3badmin@columbia.edu)

Director of Undergraduate Studies: Dr. Matthew Palmer, 1010 Schermerhorn; [mp2434@columbia.edu](mailto:mp2434@columbia.edu)

Evolutionary Biology of the Human Species Advisor: Dr. Jill Shapiro, 1011 Schermerhorn Extension; [jss19@columbia.edu](mailto:jss19@columbia.edu)

Director, Administration and Finance: Kyle Bukhari, 1014B Schermerhorn Extension; [kb2337@columbia.edu](mailto:kb2337@columbia.edu)

### THE STUDY OF ECOLOGY, EVOLUTION & ENVIRONMENTAL BIOLOGY

The Department of Ecology, Evolution & Environmental Biology (E3B) at Columbia University was established in 2001. Although we are a relatively new department, we have grown rapidly in the past decade. We now have an internationally diverse student body and a broad network of supporters at Columbia and throughout New York City. Our affiliated faculty members come from departments at

Columbia as well as from the [American Museum of Natural History](#), the [New York Botanical Garden](#), the [Wildlife Conservation Society](#), and the [EcoHealth Alliance](#). Together, we provide an unparalleled breadth and depth of research opportunities for our students.

In creating E3B, Columbia University recognized that the fields of ecology, evolutionary biology, and environmental biology constitute a distinct subdivision of the biological sciences with its own set of intellectual foci, theoretical foundations, scales of analysis, and methodologies.

E3B's mission is to educate a new generation of scientists and practitioners in the theory and methods of ecology, evolution, and environmental biology. Our educational programs emphasize a multi-disciplinary perspective to understand life on Earth from the level of organisms to global processes that sustain humanity and all life.

To achieve this multi-disciplinary perspective, the department maintains close ties to over 70 faculty members beyond its central core. Thus, many faculty members who teach, advise, and train students in research are based in other departments on the Columbia campus or at the partner institutions. Through this collaboration, the department is able to tap into a broad array of scientific and intellectual resources in the greater New York City area. The academic staff covers the areas of plant and animal systematics; evolutionary and population genetics; ecosystem science; demography and population biology; behavioral and community ecology; and related fields of epidemiology, ethnobiology, public health, and environmental policy. Harnessing the expertise of this diverse faculty and the institutions of which they are a part, E3B covers a vast area of inquiry into the evolutionary, genetic, and ecological relationships among all living things.

## STUDENT ADVISING

DUS for Environmental Biology--Matthew Palmer [mp2434@columbia.edu](mailto:mp2434@columbia.edu)

DUS for Evolutionary Biology of the Human Species--Jill Shapiro [jss19@columbia.edu](mailto:jss19@columbia.edu)

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Information to be added

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

Information to be added

## DEPARTMENT HONORS AND PRIZES

Information to be added

## OTHER IMPORTANT INFORMATION

### PROFESSORS

Ryan Abernathey  
 Nicholas Christie-Blick  
 Joel E. Cohen  
 Hugh Ducklow  
 Sonya Dyhrman  
 Peter Eisenberger  
 Göran Ekström  
 Pierre Gentine  
 Steven L. Goldstein  
 Arnold L. Gordon  
 Kevin L. Griffin (Chair)  
 Alex Halliday  
 Sidney R. Hemming (Director of Graduate Studies)  
 Bärbel Hönisch  
 Peter B. Kelemen  
 Folarin Kolawole  
 Galen McKinley  
 Jerry F. McManus (Associate Chair)  
 Faye McNeill  
 William H. Menke  
 John C. Mutter  
 Meredith Nettles  
 Paul E. Olsen  
 Terry A. Plank (Director of Undergraduate Studies)  
 Lorenzo M. Polvani  
 G. Michael Purdy  
 Maureen Raymo  
 Christopher H. Scholz  
 Adam H. Sobel  
 Marc Spiegelman  
 Martin Stute (Barnard)  
 Maya Tolstoy  
 Renata Wentzcovich

### ASSOCIATE PROFESSORS

Jacqueline Austermann  
 Roisin Commane  
 Jonathan Kingslake

### ASSISTANT PROFESSORS

Folarin Kolawole  
 Yves Moussallam

### ADJUNCT PROFESSORS

Robert F. Anderson  
 W. Roger Buck IV  
 Denton Ebel  
 John J. Flynn  
 Arthur Lerner-Lam  
 Alberto Malinverno  
 Ronald L. Miller

Dorothy M. Peteet  
 Andrew Robertson  
 Joerg M. Schaefer  
 Christopher Small  
 Andreas Thurnherr  
 Felix Waldhauser  
 Spahr C. Webb  
 Gisela Winckler

### ADJUNCT ASSOCIATE PROFESSORS

Anne Bécél

### EMERITUS

Mark Cane  
 Hugh Ducklow  
 Arnold Gordon  
 James Hays  
 Paul Richards  
 Lynn Sykes  
 David Walker

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

Program Planning for all Students

Course Numbering Structure

Guidance for First-Year Students

Guidance for Transfer Students

## UNDERGRADUATE PROGRAMS OF STUDY

The grade of D is not accepted for any course offered in fulfillment of the requirements toward the majors or concentrations.

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### Major in Environmental Biology

The major in environmental biology requires 50 points, distributed as follows:

#### Lower Division Courses

Two terms of introductory or environmental biology such as the following:

EEEB UN2001 & EEEB UN2002	ENVIRONMENTAL BIOLOGY I and ENVIRONMENTAL BIOLOGY II
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Two terms of environmental science such as the following:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH

Two terms of chemistry such as the following:

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
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One term of physics such as the following:

PHYS UN1201	GENERAL PHYSICS I
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One term of statistics such as the following:

EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
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BIOL BC2286	STATISTICS # RESEARCH DESIGN
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STAT UN1101	INTRODUCTION TO STATISTICS
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STAT UN1201	CALC-BASED INTRO TO STATISTICS
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One term of calculus such as the following:

MATH UN1101	CALCULUS I
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MATH UN1102	CALCULUS II
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MATH UN1201	CALCULUS III
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MATH UN1202	CALCULUS IV
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### **Upper Division Courses**

Students must complete five advanced elective courses (generally 3000-level or above) satisfying the following distribution. At least one of these courses must include a laboratory component. For more information and a list of appropriate courses, contact the director of undergraduate studies.

1. Ecology, behavior, or conservation biology;
2. Evolution or genetics;
3. Morphology, physiology, or diversity;
4. Policy or economics;
5. One additional course from the preceding four groups.

Students must also complete a senior thesis, which involves completing a research internship (generally in the summer before the senior year) and completing at least one semester of the thesis research seminar, EEEB UN3991-EEEB UN3992 THESIS RESEARCH SEMINAR. Enrollment in both semesters of the seminar, starting in the spring of the junior year, is recommended.

Students planning on continuing into graduate studies in environmental biology or related fields are encouraged to take organic chemistry and genetics.

## **Ecology and Evolution Track within the Environmental Biology Major**

The ecology and evolution track within the environmental biology major requires 50 points, distributed as follows:

### **Lower Division Courses**

Two terms of introductory or environmental biology such as the following:

EEEB UN2001 & EEEB UN2002	ENVIRONMENTAL BIOLOGY I and ENVIRONMENTAL BIOLOGY II
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Two terms of chemistry such as the following:

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
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Chemistry laboratory such as the following:

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
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Two terms of physics such as the following:

PHYS UN1201 & PHYS UN1202	GENERAL PHYSICS I and GENERAL PHYSICS II
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One term of statistics such as the following:

EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
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BIOL BC2286	STATISTICS # RESEARCH DESIGN
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STAT UN1101	INTRODUCTION TO STATISTICS
-------------	-------------------------------

STAT UN1201	CALC-BASED INTRO TO STATISTICS
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Two terms of calculus, or one term of calculus and second advanced course in math or statistics such as the following:

MATH UN1101	CALCULUS I
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MATH UN1102	CALCULUS II
-------------	-------------

MATH UN1201	CALCULUS III
-------------	--------------

MATH UN1202	CALCULUS IV
-------------	-------------

### **Upper Division Courses**

Students must complete five advanced elective courses (generally 3000-level or above) satisfying the following distribution. At least one of these courses must include a laboratory component. For more information and a list of appropriate courses, contact the director of undergraduate studies.

1. Three courses in ecology, evolution, conservation biology, or behavior;



2. One course in genetics. BIOL UN3031 GENETICS or BIOL BC2100 MOLECULAR # MENDELIAN GENETICS is recommended;
3. One course in morphology, physiology, or diversity.

Students must also complete a senior thesis, which involves completing a research internship (generally in the summer before the senior year) and completing at least one semester of the thesis research seminar, EEEB UN3991-EEEE UN3992 THESIS RESEARCH SEMINAR. Enrollment in both semesters of the seminar, starting in the spring of the junior year, is recommended.

Students planning on continuing into graduate studies in ecology or evolutionary biology are encouraged to take organic chemistry.

## Major in Evolutionary Biology of the Human Species

The major in evolutionary biology of the human species requires 36 points, distributed as described below.

Students must take a minimum of 20 points from approved biological anthropology courses. The additional courses may be taken in other departments with adviser approval. These include up to 6 points of introductory biology/chemistry or calculus (in any combination). Please speak with the major adviser about the extended list of courses from related areas including Biology, Psychology, Archaeology, Anthropology, Earth and Environmental Science, and Statistics that count toward this program.

For example, students interested in focusing on paleoanthropology would complement the requirements with additional courses in human evolution and morphology, evolutionary biology and theory, archaeology, genetics, and statistics. Those interested in primate behavior would supplement the requirements with classes in behavioral biology, ecology, and statistics.

### Required Courses

EEEE UN1010	HUMAN ORIGINS # EVOLUTION
EEEE UN1011	BEHAVIOR BIOL-LIVING PRIMATES

**\*\*Alternate options may be possible for all courses other than EEEB UN1010 HUMAN ORIGINS # EVOLUTION and EEEB UN1011 BEHAVIOR BIOL-LIVING PRIMATES. These will be considered on an individual basis in consultation with the major/concentration adviser.**

### Conservation Course

EEEE UN3240	Challenges and Strategies of Primate Conservation (This is the recommended conservation course but this requirement can be fulfilled with other classes such as Conservation Biology, Zoo Conservation, Ecology, Behavior and Conservation of Mammals, SEE-U in Jordan or Brazil, or other relevant offerings.)
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### Theoretical Foundation from Archaeology

Select one course of the following: Nearly all archaeology courses (save for Rise of Civilization) can fulfill this requirement. Check with the advisor.

#### Archaeology

ANTH UN1007	THE ORIGINS OF HUMAN SOCIETY
ANTH UN2028	THINK LIKE AN ARCHAEOLOGIST
ANTH UN2031	Corpse Life: Anthropological Histories of the Dead [Previously Archaeologies of Death and
ANTH UN3823	ARCH ENGAGE: PAST IN PUB EYE

### Breadth Requirement

Select a minimum of one course from each of the three sections (may overlap seminar requirement for majors): As noted above, this is a partial listing. There are additional options for all of the categories that follow. They will be considered on an individual basis in consultation with the major/concentration adviser.

#### Human Variation/Adaptation/Genetics

EEEE UN3970	Biol Basis Of Human Variation
EEEE GU4340	HUMAN ADAPTATION
EEEE GU4700	RACE:TANGLED HIST-BIOL CONCEPT
BIOL BC2100	MOLECULAR # MENDELIAN GENETICS
BIOL GU4560	EVOL IN THE AGE OF GENOMICS

#### Primate Behavioral Biology and Ecology

EEEB UN3940	Current Controversies in Primate Behavior and Ecology
EEEB GU4015	ANIMAL COMMUN:PRIMATE PERSP
EEEB GU4134	Behavioral Ecology
EEEB GU4201	ECO, BEHAVIOR # CONSERVATION OF MAMMALS (can count for either breadth requirement or conservation requirement, but not both)
EEEB GU4350	PRIMATE SEXUALITY
EEEB GU4370	Parenting Like A Primate: The Evolution of Parental Care
BIOL BC2272	ECOLOGY
BIOL BC2280	ANIMAL BEHAVIOR
PSYC BC1119	Systems and Behavioral Neuroscience
PSYC UN2420	ANIMAL BEHAVIOR
PSYC UN2450	BEHAVIORAL NEUROSCIENCE
PSYC S2490	EVOLUTIONARY PSYCHOLOGY
PSYC BC3372	Comparative Cognition
PSYC UN3450	Evolution of Intelligence, Animal Communication, # Language
PSYC GU4242	Evolution of Language (seminar)
PSYC GU4250	Evolution of Intelligence, Cognition, and Language (Seminar)

#### **Human Evolution/Morphology**

EEEB UN3204	Dynamics of Human Evolution
EEEB UN3208	EXPLORATIONS IN PRIM ANATOMY
EEEB UN3215	FORENSIC OSTEOLOGY
EEEB UN3220	THE EVOL OF HUM GROWTH # DEVPT
EEEB UN3910	THE NEANDERTALS
EEEB UN3998	INDEPENDENT STUDY
EEEB GU4200	Introduction to Mammalogy
ANAT BC2573	HUMAN ANATOMY AND MOVEMENT
BIOL BC2278	EVOLUTION
BIOL UN3006	PHYSIOLOGY
BIOL UN3208	Introduction to Evolutionary Biology
BIOL UN3019	Brain Evolution
BIOL BC3360	PHYSIOLOGY

#### **Seminar**

Selection at least one of the following seminars. May also count toward the breadth requirement.

EEEB UN3204	Dynamics of Human Evolution
EEEB UN3910	THE NEANDERTALS
EEEB UN3940	Current Controversies in Primate Behavior and Ecology
EEEB UN3970	Biol Basis Of Human Variation
EEEB UN3993 & EEBB UN3994	EBHS SENIOR THESIS SEMINAR and EBHS SENIOR THESIS SEMINAR

Additional courses in the student's area of focus to complete the required 36 points overall including a minimum of 20 points of approved biological anthropology courses.

Students intending to pursue graduate study in this field should broaden their foundation by taking an introductory biology course (optimally either EEBB UN2001 ENVIRONMENTAL BIOLOGY I or EEBB UN2002 ENVIRONMENTAL BIOLOGY II) or an advanced evolution course, a genetics course, and a statistics course.

We recommend that those interested in either biological anthropology or bioarchaeology take a foundation cultural anthropology course such as ANTH UN1002 THE INTERPRETATION OF CULTURE, ANTH UN2004 INTRO TO SOC # CULTURAL THEORY, ANTH UN2005 THE ETHNOGRAPHIC IMAGINATION, or ANTH UN3040 ANTHROPOLOGICAL THEORY.

Students interested in forensic anthropology should take chemistry in lieu of of biology (though the latter is recommended as a foundation course for all students). The adviser makes additional recommendations dependent on the student's area of focus.

#### **Approved Biological Anthropology Courses**

##### **Paleoanthropology and Morphology**

EEEB UN1010	HUMAN ORIGINS # EVOLUTION
EEEB UN3204	Dynamics of Human Evolution
EEEB UN3208	EXPLORATIONS IN PRIM ANATOMY
EEEB UN3215	FORENSIC OSTEOLOGY
EEEB UN3220	THE EVOL OF HUM GROWTH # DEVPT
EEEB UN3910	THE NEANDERTALS
EEEB UN3998	INDEPENDENT STUDY

##### **Primate Behavioral Ecology and Evolution**

EEEB UN1011	BEHAVIOR BIOL-LIVING PRIMATES
EEEB UN3940	Current Controversies in Primate Behavior and Ecology
EEEB GU4015	ANIMAL COMMUN:PRIMATE PERSP
EEEB GU4350	PRIMATE SEXUALITY
EEEB GU4370	Parenting Like A Primate: The Evolution of Parental Care

##### **Human Variation**

EEEB UN3970 Biol Basis Of Human Variation	
EEEB GU4340	HUMAN ADAPTATION
EEEB GU4700	RACE:TANGLED HIST-BIOL CONCEPT

**Additional Courses**

EEEB UN3240	Challenges and Strategies of Primate Conservation
EEEB UN3993 & EEEB UN3994	EBHS SENIOR THESIS SEMINAR and EBHS SENIOR THESIS SEMINAR

## MINOR IN ECOLOGY, EVOLUTION, AND ENVIRONMENTAL BIOLOGY

Beginning in fall 2024 E3B is pleased to announce a new minor in Ecology, Evolution, and Environmental Biology. This minor provides both grounding in the intellectual pillars of the department while affording students the option to explore the broad scope of biodiversity, ecosystems, and environmental and evolutionary biology. Students may also delve into specific subfields such as conservation biology, botany, behavioral biology and ecology, ecosystem ecology, primatology, or human evolution. No previous biology background is required. Ideally, students will take one course by the end of their second year to see if the program is of interest, but juniors and even seniors who develop a curiosity in the subject may complete the minor without difficulty.

Advising: Contact the Directors of Undergraduate Programs. [Matt Palmer mp2434@columbia.edu](mailto:Matt.Palmer@columbia.edu) ([mp2434@columbia.edu](mailto:mp2434@columbia.edu)) advises students who have a broad organismal/ecosystem focus corresponding to interests in the EB program; [Jill Shapiro jss19@columbia.edu](mailto:Jill.Shapiro@columbia.edu) advises students with a focus on human and non-human primate evolutionary biology and behavior, corresponding to the EBHS program. In addition to the program advisors, guidance as to offerings and a complete list of courses including prerequisites is available on the E3B website.

**REQUIRED COURSES**

Minors must take one of the following four introductory courses and any other four 3-4 points E3B courses (this includes the other introductory classes).

EEEB UN2001 Environmental Biology 1 (offered every fall)

EEEB UN2002 Environmental Biology 2 (offered every spring)

EEEB UN1010 Human Origins and Evolution (offered every fall)

EEEB UN1011 Behavioral Biology of Living Primates (offered every spring)

The four introductory offerings are “gateway” classes. We recommend that students interested broadly in organismal biology/environmental biology take either Environmental Biology 1 or 2, or both. Those with a focus on human and non-human primate evolutionary biology and behavior should take either Human Origins and Evolution or Behavioral Biology of Living Primates. This will maximize the number of upper-level courses that would be open but there is still considerable flexibility. There are a small number of classes without any prerequisites and students with foundational biology courses from either Columbia or Barnard Biology may fulfill some class prerequisites\*.

Advisors will provide guidance as to offerings and a complete list of courses including prerequisites is available on the E3B website.

\*BIOL2005/2006 and Barnard BIO BC1501 are similar to EEEB2001 (Environmental Biology 1) and may substitute this for courses requiring the latter as a prerequisite, but must take five other courses in E3B. Since the BIOL sequence does not include evolution (in contrast to EB1) we highly recommend that they take Environmental Biology 2 or one of the other foundation courses. Barnard BIO BC1500 is similar to Environmental Biology 2 and so students who have completed this can count it as having satisfied the introductory course requirement, and so can take any five courses in E3B to complete the minor.

**COURSE OPTIONS**

UN3001 Saga of Life

UN3005 Intro Statistics Ecology and Evolutionary Biology

UN3087 Conservation Biology

UN3204 Dynamics of Human Evolution

UN3208 Explorations Primate Anatomy

UN3215 Forensic Osteology

UN3220 Evolution of Human Growth and Evolution

UN3240 Primate Conservation

UN3910 The Neandertals

UN3940 Current Controversies in Primate Behavior

UN3970 Biological Basis of Human Variation

UN3919 Trading Nature

UN3997 Independent Study

UN3998.002 Group Independent Study in Postcranial Osteology

GU4015 Animal Communication: A Primate Perspective

GU4050 Programming and Data Science Skills

GU4055 Principles and Applications in Modern DNA Sequencing

GU4065 Tropical Biology (Winter Break Course in Kenya)

GU4086 Ethnobotany

GU4100 Forest Ecology

GU4105 Intermediate Statistics for Ecology and Evolution

GU4111 Ecosystem Ecology and Global Change

GU4112 Ichthyology

GU4126 Conservation Genetics

GU4127 Disease Ecology

GU4129 Zoo Conservation

GU4134 Behavioral Ecology

GU4135 Urban Ecology and Design

GU4140 Ornithology

GU4150 Theoretical Ecology

GU4160 Landscape Ecology

GU4192 Introduction to Landscape Analysis

GU4195 Marine Conservation

GU4200 Introduction to Mammalogy

GU4201 Ecology, Behavior and Conservation of Mammals

GU4210 Herpetology

GU4340 Human Adaptation

GU4350 Primate Sexuality

GU4370 Parenting Like a Primate: the Evolution of Parental Care

GU4550 Plant Ecophysiology

GU4605 Human-Wildlife Conflict

GU4650 Biodiversity and Ecosystem Processes

GU4666 Insect Diversity

GU4670 Introduction to GIS

GU4700 Race: The Tangled History of a Biological Concept

GU4910 Field Botany and Plant Systematics

Summer Only:

S1001 Biodiversity

S1115 The Life Aquatic

S3015 Animal Behavior Through Fieldwork

With advisor approval, students may take a maximum of two courses from a limited set taught by affiliates in other departments. For example: DEES GU4560 The Ecology of Tree line in a Changing Climate; BIOL-BC2240 Plant Evolution and Diversity; BIOL/ANAT BC2574-Laboratory in Human Anatomy; BIOL-BC2272 Ecology; and BIOL BC-3380-Applied Ecology and Evolution.

Examples of focused programs (e.g., biodiversity, botany, conservation, ecology, evolutionary biology, human evolution & morphology, primatology, zoology, etc., available on the E3B Department website <https://e3b.columbia.edu/>

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Environmental Biology

The concentration in environmental biology differs from the major in omitting calculus and physics from the lower division, requiring three advanced electives rather than five, and omitting the senior seminar with thesis project. It requires 36 points, distributed as follows:

#### Lower Division Courses

Two terms of introductory or environmental biology such as the following:

EEEB UN2001 & EEEB UN2002	ENVIRONMENTAL BIOLOGY I and ENVIRONMENTAL BIOLOGY II (or equivalents)
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Two terms of environmental science such as the following:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH

Two terms of chemistry such as the following:

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
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One term of statistics. Select one of the following:

EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
BIOL BC2286	STATISTICS # RESEARCH DESIGN

STAT UN1101	INTRODUCTION TO STATISTICS
STAT UN1201	CALC-BASED INTRO TO STATISTICS

### **Upper Division Courses**

EEEB UN3087	CONSERVATION BIOLOGY
Two other 3000- or 4000- level courses from the advanced environmental biology courses listed for the major.	

## **Concentration in Evolutionary Biology of the Human Species**

The concentration in evolutionary biology of the human species requires 20 points including the required introductory courses EEEB UN1010 HUMAN ORIGINS # EVOLUTION, EEEB UN1011 BEHAVIOR BIOL-LIVING PRIMATES, an approved conservation course (optimally Primate Conservation), and three courses for the breadth distribution requirements as described for the major. Students must take a minimum of 15 points from approved biological anthropology courses as described for the major (the two introductory classes count toward that total). The additional courses may be taken in other departments with adviser approval.

Concentrators do not have to complete the theoretical foundation course from archaeology or a seminar.

## **Special Concentration in Environmental Science for Environmental Biology Majors**

The special concentration in environmental science requires a minimum of 31.5 points, distributed as follows:

### **Introductory Environmental Science (13.5 points)**

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST (equivalent to EEEB UN2002)

### **Introductory Science (6 points)**

Two courses in chemistry, physics, mathematics, or environmental biology from the supporting mathematics and science list for the environmental science major.

### **Advanced Environmental Science (12 points)**

Select four of the following:

EESC UN3015	The Earth's Carbon Cycle
EESC BC3017	ENVIRONMENTAL DATA ANALYSIS
EESC BC3025	HYDROLOGY
EESC GU4008	Introduction to Atmospheric Science
EESC GU4050	GLOBAL ASSMT-REMOTE SENSING
EESC GU4223	SEDIMENTARY GEOLOGY
EESC GU4550	Plant Ecophysiology
EESC GU4835	Wetlands and Climate Change
EESC GU4885	CHEMISTRY OF CONTINENTL WATERS
EESC GU4917	THE EARTH/HUMAN INTERACTIONS
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY

Advanced courses used to fulfill requirements in the environmental biology major cannot count toward requirements for the special concentration.

## **Special Concentration in Environmental Biology for Environmental Science Majors**

The Department of Ecology, Evolution, and Environmental Biology sponsors a special concentration which must be done in conjunction with the environmental science major. Students should be aware that they must complete the environmental science major in order to receive credit for the special concentration.

The special concentration in environmental biology requires a minimum of 39 points, distributed as follows:

### **Introductory Environmental Biology and Environmental Science (17 points)**

EEEB UN2001	ENVIRONMENTAL BIOLOGY I
EEEB UN2002	ENVIRONMENTAL BIOLOGY II (equivalent to EESC UN2300)
EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH

### **Introductory Science (13 points)**

Select one of the following chemistry sequences:

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I-LECTURES and GENERAL CHEMISTRY II-LECTURES
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CHEM UN1604 & CHEM UN2507	2ND TERM GEN CHEM (INTENSIVE) and Intensive General Chemistry Laboratory
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One term of statistics such as the following:

EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
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BIOL BC2286	STATISTICS # RESEARCH DESIGN
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STAT UN1101	INTRODUCTION TO STATISTICS
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STAT UN1201	CALC-BASED INTRO TO STATISTICS
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EEEB UN3087	CONSERVATION BIOLOGY
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### **Advanced Environmental Biology (9 points)**

Three additional advanced environmental biology courses (3000-level and above), each chosen from a different curricular area (evolution/genetics, ecology/behavior/conservation, anatomy/physiology/diversity, biology laboratory courses).

## ENVIRONMENTAL CHEMISTRY

### THE CHEMISTRY DEPARTMENT

Department website: <https://www.chem.columbia.edu/>

Office location: 340 Havemeyer Hall

Office contact: 212-854-6177

Interim Director of Undergraduate Studies: Dr. Vesna Gasperov, 319 Uris; 212-854-2017; [vg2231@columbia.edu](mailto:vg2231@columbia.edu)

### THE STUDY OF CHEMISTRY

Chemistry, the study of molecules, is a central science interesting for its own sake but also necessary as an intellectual link to the other sciences of biology, physics, and environmental science. Faculty find the various disciplines of chemistry fascinating because they establish intellectual bridges between the macroscopic or human-scale world that we see, smell, and touch, and the microscopic world that affects every aspect of our lives. The study of chemistry begins on the microscopic scale and extends to engage a variety of different macroscopic contexts.

Chemistry is currently making its largest impact on society at the nexus between chemistry and biology and the nexus between chemistry and engineering, particularly where new materials are being developed. A typical chemistry laboratory now has more computers than test tubes and no longer smells of rotten eggs.

The chemistry department majors are designed to help students focus on these new developments and to understand

the factors influencing the nature of the discipline. Because the science is constantly changing, courses change as well, and while organic and physical chemistry remain the bedrock courses, they too differ greatly from the same courses 40 years ago. Many consider biochemistry to be a foundation course as well. Although different paths within the chemistry major take different trajectories, there is a core that provides the essential foundation students need regardless of the path they choose. Students should consider majoring in chemistry if they share or can develop a fascination with the explanatory power that comes with an advanced understanding of the nature and influence of the microscopic world of molecules.

Students who choose to major in chemistry may elect to continue graduate study in this field and obtain a Ph.D. which is a solid basis for a career in research, either in the industry or in a university. A major in chemistry also provides students with an astonishing range of career choices such as working in the chemical or pharmaceutical industries or in many other businesses where a technical background is highly desirable. Other options include becoming a financial analyst for a technical company, a science writer, a high school chemistry teacher, a patent attorney, an environmental consultant, or a hospital laboratory manager, among others. The choices are both numerous and various as well as intellectually exciting and personally fulfilling.

## STUDENT ADVISING

### Consulting Advisers

Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu))

### Enrolling in Classes

Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu))

### Preparing for Graduate Study

Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu))

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The department grants advanced placement (AP) credit for a score of 4 or 5 or the equivalent. The amount of credit granted is based on the results of the department assessment exam and completion of the requisite course. Students who register for CHEM UN1604 (2ND TERM GEN CHEM, INTENSIVE) are granted 3 points of credit; students who register for CHEM UN2045 (INTENSIVE ORGANIC CHEMISTRY I-CHEM UN2046 INTENSIVE ORGANIC CHEM II) are granted 6 points of credit. In either case, credit is granted only upon completion of the course with a grade of C or better. Students must complete a department assessment exam prior to registering for either of these courses.

## Transfer Courses

Students who are transferring to Columbia should contact Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) to have any chemistry courses assessed for equivalency. Please email a detailed syllabus and transcript.

## Study Abroad Courses

Chemistry department majors who are planning to study abroad should contact Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) if they wish to study any chemistry abroad.

## UNDERGRADUATE RESEARCH

### Undergraduate Research in Courses

Students can get academic credit for undergraduate research by registering for CHEM UN3098 Supervised Independent Research. Generally, students register for 4 credits as this will fulfill one of the requirements of the Chemistry major. You will be expected to commit the same number of hours to research as you would for any other 4 credit class, around 12-16 hours per week throughout the entire semester. You need to obtain permission from your faculty sponsor and Dr. Gasperov to register for UN3098. At the end of the semester, you will be required to present a poster of your research results at a poster session for all UN3098 students.

### Undergraduate Research Outside of Courses

Students often ask, why should I do research? Research is exciting! You will design experiments, discover phenomena and make new molecules that no one has ever seen before. Furthermore, there are several practical reasons why you should consider research as an undergraduate student.

Research is a great way to learn more about chemistry. The concepts you learn in the classroom will come to light when you do research. You will also learn more about instrumentation, data analysis, and gain experience in writing reports, preparing posters, and discussing science with your research group members.

Research is a great career builder! Whether you are considering graduate school, professional school, or joining the workforce after graduation, research as an undergraduate will be an invaluable experience that will sharpen your critical thinking and provide you with the unique opportunity to work alongside world-leading faculty, graduate students and post-doctoral fellows.

The faculty in the Department of Chemistry carry out fundamental and applied research at both the core and frontiers of this scientific discipline. There are many opportunities for research during the academic year and in the summer with faculty in the department.

If you are interested in working in a research laboratory, you should take the following steps:

Investigate faculty research projects by using the department's website,

<http://chem.columbia.edu/research/>, or by speaking directly with faculty members.

Decide which faculty research project interests you.

Contact that faculty member directly to inquire about research opportunities within his/her laboratory.

The Program Manager for Undergraduate Studies, Dr. Vesna Gasperov, can assist you with this process.

Qualified students can take the First Year Seminar in Chemical Research course (CHEM UN2408) during the Spring semester in which you will have the opportunity to learn about research conducted within the chemistry department and other science departments in the university. This can help to identify areas of interest that you may not have considered.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Departmental honors are awarded to 10 percent of the graduating majors each year.

To be considered for department honors, students must have a grade point average of at least 3.6 in major courses and have participated in research on a project of high quality.

Biochemistry majors may be considered for Honors in either Chemistry or Biological Sciences.

### Academic Prizes

#### THE THOMAS J. KATZ PRIZE

Established in 2009 by friends and colleagues of Professor Katz, this prize may be awarded to the Columbia College, General Studies, or SEAS student majoring in the chemical sciences who is deemed by the faculty to have demonstrated outstanding achievement as a scholar and as a researcher.

#### THE RICHARD BERSOHN PRIZE

Established in 2009 by Professor Louis Brus, who was a student of Professor Bersohn, this prize may be awarded to the Columbia College, General Studies, or SEAS student majoring in the chemical sciences who is deemed by the faculty to have demonstrated outstanding achievement as a scholar and as a researcher.

## OTHER IMPORTANT INFORMATION

### Track Information

In the first year, Track 1 students with one year of high school chemistry take a one-year course in general chemistry, and the one-term laboratory course that accompanies it. In the second year, students study organic chemistry, and take organic chemistry laboratory.

Students who qualify by prior assessment during orientation week can place into the advanced tracks. There are two options. Track 2 students take, in the fall term, a special one-term intensive course in general chemistry in place of the one-year course. In the second year, students study organic chemistry and take organic chemistry laboratory. Track 3 students take a one-term intensive general chemistry laboratory course in the fall followed by a one-year course in organic chemistry for first-year students. The organic chemistry lecture sequence is taken spring-fall. In the second year, students may enroll in physical chemistry and the organic chemistry laboratory course.

Additional information on the tracks can be found in the *Requirements* section.

### Additional Courses

First-year students may also elect to take CHEM UN2408. This seminar focuses on topics in modern chemistry, and is offered to all students who have taken at least one semester of college chemistry and have an interest in chemical research.

Biochemistry (BIOC GU4501, BIOC GU4512) is recommended for students interested in the biomedical sciences.

Physical chemistry (CHEM UN3079-CHEM UN3080), a one-year program, requires prior preparation in mathematics and physics. The accompanying laboratory is CHEM UN3085-CHEM UN3086.

Also offered are a senior seminar (CHEM UN3920); advanced courses in biochemistry, inorganic, organic, and physical chemistry; and an introduction to research (CHEM UN3098).

### Sample Programs

Some *typical* programs are shown below. Programs are crafted by the student and the Director of Undergraduate Studies and Program Manager to meet individual needs and interests.

## Track 1

### First Year

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
CHEM UN1500	GENERAL CHEMISTRY LABORATORY
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES

Calculus and physics as required.

### Second Year

CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

Calculus and physics as required.

### Third Year

CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
BIOC GU4501	BIOCHEM I-STRUCTURE/METABOLISM
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB
CHEM UN3098	SUPERVISED INDEPENDENT RES

### Fourth Year

CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3920	SENIOR SEMINAR
CHEM GU4071	INORGANIC CHEMISTRY
Advanced courses (4000-level or higher)	

## Track 2

### First Year

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES

Calculus and physics as required.

**Second Year**

CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

Calculus and physics as required.

**Third Year**

CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
BIOC GU4501	BIOCHEM I-STRUCTURE/METABOLISM
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB
CHEM UN3098	SUPERVISED INDEPENDENT RES

**Fourth Year**

CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3920	SENIOR SEMINAR
CHEM GU4071	INORGANIC CHEMISTRY

Advanced courses (4000- level or higher)

**Track 3****First Year**

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES

Calculus and Physics as required.

**Second Year**

CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR
CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
CHEM UN2545	INTENSIVE ORGANIC CHEM LAB
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB

Calculus and physics as required.

**Third Year**

BIOC GU4501	BIOCHEM I-STRUCTURE/METABOLISM
CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3098	SUPERVISED INDEPENDENT RES
CHEM GU4071	INORGANIC CHEMISTRY

**Fourth Year**

CHEM UN3920	SENIOR SEMINAR
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Advanced courses (4000-level or higher)

**PROFESSORS**

Luis Campos  
Virginia W. Cornish  
Richard A. Friesner  
Ruben Gonzalez  
Laura Kaufman  
James L. Leighton  
Ann E. McDermott  
Wei Min  
Jack R. Norton  
Colin Nuckolls  
Gerard Parkin  
David R. Reichman  
Tomislav Rovis  
Dalibor Sames  
Brent Stockwell  
James J. Valentini  
Latha Venkataraman  
Xiaoyang Zhu

**ASSOCIATE PROFESSORS**

Timothy Berkelbach  
Angelo Cacciuto  
Jonathan Owen  
Xavier Roy

**ASSISTANT PROFESSORS**

Milan Delor  
Neel Shah  
Makeda Tekle-Smith

**SENIOR LECTURERS**

Luis Avila  
Anna Ghurbanyan  
Sarah Hansen  
Fay Ng

Joseph Ulichny

## LECTURERS

Robert Beer  
John Decatur  
Charles E. Doubleday  
Christopher Eckdahl  
Ruben Savizky  
Talha Siddiqui

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

The Department of Chemistry offers four distinct academic major programs for undergraduates interested in professional-level training and education in the chemical sciences: chemistry, chemical physics, biochemistry and environmental chemistry. For students interested in a program of less extensive study and coursework, the department offers a concentration in chemistry.

In the first year, Track 1 students with one year of high school chemistry take a one-year course in general chemistry, and the one-term laboratory course that accompanies it. In the second year, students study organic chemistry, and take organic chemistry laboratory.

Students who qualify by prior assessment during orientation week can place into the advanced tracks. There are two options. Track 2 students take, in the fall term, a special one-term intensive course in general chemistry in place of the one-year course. In the second year, students study organic chemistry and take organic chemistry laboratory. Track 3 students take a one-year course in organic chemistry for first-year students and the one-term intensive general chemistry laboratory course. In the second year, students may enroll in physical chemistry and the organic chemistry laboratory course.

The results of the department assessment exam are used to advise students which track to pursue. The Department of Chemistry offers three different tracks. Students who wish to take Track 2 or 3 classes must take the department assessment exam. Students who wish to pursue Track 1 classes do not need to take the assessment exam.

Additional information on the tracks can be found in the Requirements section.

### Guidance for Transfer Students

Students who are transferring to Columbia should contact Dr. Vesna Gasperov ([vg2231@columbia.edu](mailto:vg2231@columbia.edu)) to have any

chemistry courses assessed for equivalency. Please email a detailed syllabus and transcript.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

Students majoring in chemistry or in one of the interdepartmental majors in chemistry should go to the director of undergraduate studies or the undergraduate program manager in the Department of Chemistry to discuss their program of study. Chemistry majors and interdepartmental majors usually postpone part of the Core Curriculum beyond the sophomore year.

#### Chemistry Tracks

All students who wish to start with Track 2 or 3 courses must take an assessment during orientation week ahead of fall semester. The results of the assessment are used to advise students which track to pursue. Unless otherwise specified below, all students must complete one of the following tracks:

#### Track 1

CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
CHEM UN1500	GENERAL CHEMISTRY LABORATORY
CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS

#### Track 2

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
or CHEM UN1507	INTENSIVE GENERAL CHEMISTRY-LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN2443	ORGANIC CHEMISTRY I-LECTURES
CHEM UN2444	ORGANIC CHEMISTRY II-LECTURES
CHEM UN2493	ORGANIC CHEM. LAB I TECHNIQUES
CHEM UN2494	ORGANIC CHEM. LAB II SYNTHESIS



**Track 3**

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR
CHEM UN2545	INTENSIVE ORGANIC CHEM LAB

**Physics Sequences**

Unless otherwise specified below, all students must complete one of the following sequences:

**Sequence A**

For students with limited background in high school physics:

PHYS UN1401	INTRO TO MECHANICS # THERMO
PHYS UN1402	INTRO ELEC/MAGNETISM # OPTCS
PHYS UN1403	INTRO-CLASSCL # QUANTUM WAVES

For chemistry majors, the following laboratory courses are recommended, NOT required. For chemical physics majors, ONE of the following laboratory courses are required:

PHYS UN1494	INTRO TO EXPERIMENTAL PHYS-LAB
PHYS UN3081	INTERMEDIATE LABORATORY WORK

**Sequence B**

PHYS UN1601	PHYSICS I:MECHANICS/ RELATIVITY
PHYS UN1602	PHYSICS II: THERMO, ELEC # MAG
PHYS UN2601	PHYSICS III:CLASS/ QUANTUM WAVE

For chemistry majors, the following laboratory course is recommended NOT required. For chemical physics majors, the following laboratory course is required:

PHYS UN3081	INTERMEDIATE LABORATORY WORK
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**Sequence C**

For students with advanced preparation in physics and mathematics:

PHYS UN2801 & PHYS UN2802	ACCELERATED PHYSICS I and ACCELERATED PHYSICS II
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For chemistry majors, the following laboratory course is recommended NOT required. For chemical physics majors, the following laboratory course is required:

PHYS UN3081	INTERMEDIATE LABORATORY WORK
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**Major in Chemistry**

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

**Chemistry**

Select one of the chemistry tracks outlined above.

CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES (Recommended NOT required)
CHEM UN3079	PHYSICAL CHEMISTRY I- LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II- LECTURES
CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3546	ADVANCED ORGANIC CHEMISTRY LAB
CHEM UN3920	SENIOR SEMINAR
CHEM GU4071	INORGANIC CHEMISTRY

Select one course from the following:

CHEM UN3098	SUPERVISED INDEPENDENT RES
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OR Chemistry courses numbered CHEM GU4000 or above for 2 credit points or more

**Physics**

Select one of the physics sequences outlined above in the Guidelines section.

**Mathematics**

Select one of the following sequences:

Four semesters of calculus:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV
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Two semesters of honors mathematics:

MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B
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**Major in Biochemistry**

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

**Chemistry**

Select one of the chemistry tracks outlined above.

CHEM UN2408 1ST YEAR SEM IN  
CHEMICAL RES  
(Recommended NOT required)

CHEM UN3079 PHYSICAL CHEMISTRY I-  
LECTURES

CHEM UN3080 PHYSICAL CHEMISTRY II-  
LECTURES

### Biology

BIOL UN1908 First Year Seminar in Biology  
(Recommended NOT required)

BIOL UN2005 INTRO BIO I:  
BIOCHEM,GEN,MOLEC

BIOL UN2006 INTRO BIO II:CELL BIO,DEV/  
PHYS

BIOC GU4501 BIOCHEM I-STRUCTURE/  
METABOLISM

or BIOC UN3300 BIOCHEMISTRY

BIOC GU4512 MOLECULAR BIOLOGY

### Physics

Select one of the following physics sequences:

#### Sequence A:

PHYS UN1201 GENERAL PHYSICS I  
& PHYS UN1202 and GENERAL PHYSICS II

#### Sequence B:

PHYS UN1401 INTRO TO MECHANICS #  
& PHYS UN1402 THERMO  
& PHYS UN1403 and INTRO ELEC/  
MAGNETISM # OPTCS  
and INTRO-CLASSCL  
# QUANTUM WAVES  
(PHYS UN1403 is recommended  
NOT required)

#### Sequence C:

PHYS UN1601 PHYSICS I:MECHANICS/  
& PHYS UN1602 RELATIVITY  
& PHYS UN2601 and PHYSICS II: THERMO,  
ELEC # MAG  
and PHYSICS III:CLASS/  
QUANTUM WAVE  
(PHYS UN2601 is recommended  
but not required)

#### Sequence D:

PHYS UN2801 ACCELERATED PHYSICS I  
& PHYS UN2802 and ACCELERATED  
PHYSICS II

### Mathematics

Select one of the following sequences:

#### Two semesters of calculus:

MATH UN1101 CALCULUS I  
& MATH UN1102 and CALCULUS II  
& MATH UN1201 and CALCULUS III  
& MATH UN1202 and CALCULUS IV

#### Two semesters of honors mathematics:

MATH UN1207 HONORS MATHEMATICS A  
& MATH UN1208 and HONORS  
MATHEMATICS B

AP credit and one term of calculus (Calculus II or  
higher)

### Additional Courses

Select two of the following upper level laboratory courses  
(one must be a Biology lab):

BIOL UN2501 CONTEMPORARY BIOLOGY  
& BIOL UN3040 LAB  
and LAB IN MOLECULAR  
BIOLOGY (A 3 pt. Barnard lab  
course, with permission from Bio  
advisor)

BIOL UN3052 PROJECT LAB-MOLECULAR  
GENETICS

BIOL UN3058 PROJECT LAB IN  
MICROBIOLOGY

BIOL UN3500 INDEP BIOLOGICAL  
RESEARCH

CHEM UN3085 PHYSICL-ANALYTICL  
LABORATORY I

CHEM UN3086 PHYSICL-ANALYTCL  
LABORATORY II

CHEM UN3098 SUPERVISED INDEPENDENT  
RES

CHEM UN3546 ADVANCED ORGANIC  
CHEMISTRY LAB

Select any three courses from the following:

CHEM GU4071 INORGANIC CHEMISTRY

CHEM GU4102 CHEMISTRY FOR THE  
BRAIN

CHEM GU4103 ORGANOMETALLIC  
CHEMISTRY

CHEM GU4147 ADVANCED ORGANIC  
CHEMISTRY I

CHEM GU4312 CHEMICAL BIOLOGY

CHEM GU4313 Peptide and Protein Chemistry

BIOC GU4323 Biophysical Chemistry I

BIOC GU4324 Biophysical Chemistry II

MATH UN3027 Ordinary Differential Equations  
or MATH UN2030 ORDINARY DIFFERENTIAL  
EQUATIONS

One additional semester of calculus

One additional semester of honors math:

MATH UN1207 HONORS MATHEMATICS A  
or MATH UN1208 HONORS MATHEMATICS B

Any biology course at the 3000/4000 level for 3 or  
more points. The following are recommended:

BIOL UN3004 NEUROBIO I:CELLULAR #  
MOLECLR

or BIOL UN3005 NEUROBIO II: DEVPT # SYSTEMS

BIOL UN3008 The Cellular Physiology of  
Disease

BIOL UN3022 DEVELOPMENTAL BIOLOGY

BIOL UN3034 Biotechnology

BIOL UN3041 CELL BIOLOGY

BIOL UN3073 CELLULAR/MOLECULAR  
IMMUNOLOGY

BIOL GU4065	Molecular Biology of Disease
BIOL GU4300	DRUGS AND DISEASE

## Major in Chemical Physics

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II-LECTURES
CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I
CHEM UN3086	PHYSICL-ANALYTCL LABORATORY II
CHEM UN3920	SENIOR SEMINAR
CHEM GU4221 or PHYS GU4021	QUANTUM CHEMISTRY I QUANTUM MECHANICS I

### Physics

Select one of the physics sequences outlined above in *Guidelines for all Chemistry Majors, Concentrators and Interdepartmental Majors*. For the chemical physics major, one lab **MUST** be completed for the sequence chosen.

Complete the following lectures:

PHYS UN3003	MECHANICS
PHYS UN3007	ELECTRICITY-MAGNETISM
PHYS UN3008	ELECTROMAGNETIC WAVES # OPTICS

### Mathematics

Select one of the following sequences:

Four semesters of calculus:

MATH UN1101	CALCULUS I
& MATH UN1102	and CALCULUS II
& MATH UN1201	and CALCULUS III
& MATH UN1202	and CALCULUS IV

Two semesters of honors mathematics:

MATH UN1207	HONORS MATHEMATICS A
& MATH UN1208	and HONORS
& MATH UN3027	MATHEMATICS B
	and Ordinary Differential Equations

Two semesters of advanced calculus:

MATH UN1202	CALCULUS IV
& MATH UN3027	and Ordinary Differential Equations

## Major in Environmental Chemistry

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above. A second semester of Organic Chemistry lecture is recommended NOT required.

CHEM UN3079	PHYSICAL CHEMISTRY I-LECTURES
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CHEM GU4071	INORGANIC CHEMISTRY
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The following courses are recommended NOT required:

CHEM UN2408	1ST YEAR SEM IN CHEMICAL RES
CHEM UN3920	SENIOR SEMINAR

### Earth and Environmental Science

Select two of the following three courses:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

Additional course required:

EESC UN3101	Geochemistry for a Habitable Planet
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Select one of the following labs:

EESC BC3016	ENVIRONMENTAL MEASUREMENTS
CHEM UN3085	PHYSICL-ANALYTICL LABORATORY I

Select one option for Independent Research in Environmental Chemistry:

EESC BC3800 & EESC BC3801	ENVIR SCIENCE SENIOR SEMINAR and ENVIR SCIENCE SENIOR SEM II
CHEM UN3098	SUPERVISED INDEPENDENT RES (It is strongly recommended to take CHEM UN3920 if taking CHEM UN3098)

### Physics

Select one of the following physics sequences:

Sequence A:

PHYS UN1201 & PHYS UN1202	GENERAL PHYSICS I and GENERAL PHYSICS II
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Sequence B:

PHYS UN1401 & PHYS UN1402 & PHYS UN1403	INTRO TO MECHANICS # THERMO and INTRO ELEC/ MAGNETISM # OPTICS and INTRO-CLASSCL # QUANTUM WAVES (Recommended NOT required)
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**Sequence C:**

PHYS UN1601 & PHYS UN1602 & PHYS UN2601	PHYSICS I:MECHANICS/ RELATIVITY and PHYSICS II: THERMO, ELEC # MAG and PHYSICS III:CLASS/ QUANTUM WAVE (Recommended, not required)
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**Sequence D:**

PHYS UN2801 & PHYS UN2802	ACCELERATED PHYSICS I and ACCELERATED PHYSICS II
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**Mathematics**

Two semesters of calculus:

MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II
MATH UN1201	CALCULUS III
MATH UN1202	CALCULUS IV

**Additional Courses**

Select any two of the following:

**Chemistry:**

CHEM UN3080	PHYSICAL CHEMISTRY II- LECTURES
CHEM GU4103	ORGANOMETALLIC CHEMISTRY
CHEM GU4147	ADVANCED ORGANIC CHEMISTRY I

**Earth and Environmental Science:**

EESC BC3017	ENVIRONMENTAL DATA ANALYSIS
EESC BC3025	HYDROLOGY
EESC GU4008	Introduction to Atmospheric Science
EESC GU4009	CHEMICAL GEOLOGY
EESC GU4040	CLIM THERMODYN/ENERGY TRANSFER
EESC GU4050	GLOBAL ASSMT-REMOTE SENSING
EESC GU4600	EARTH RESOURCES # SUSTAIN DEV
EESC GU4835	Wetlands and Climate Change
EESC GU4885	CHEMISTRY OF CONTINENTL WATERS
EESC GU4888	Stable Isotope Geochemistry
EESC GU4924	INTRO TO ATMOSPHERIC CHEMISTRY
EESC GU4925	INTRO TO PHYSICAL OCEANOGRAPHY
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY

**Earth and Environmental Engineering:**

EAEE E4001	INDUST ECOLOGY-EARTH RESOURCES
EAEE E4003	AQUATIC CHEMISTRY

**Mathematics:**

One additional semester of calculus

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**Minor in Chemistry**

Students should select one of the following tracks:

**Track 1**

CHEM UN1403	GENERAL CHEMISTRY I- LECTURES
CHEM UN1404	GENERAL CHEMISTRY II- LECTURES
CHEM UN1500	GENERAL CHEMISTRY LABORATORY
CHEM UN2443	ORGANIC CHEMISTRY I- LECTURES

**Track 2**

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
or CHEM UN1507	INTENSVE GENERAL CHEMISTRY- LAB
CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
CHEM UN2443	ORGANIC CHEMISTRY I- LECTURES

**Track 3**

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR

Select an additional two classes from the following options:

CHEM UN2444	ORGANIC CHEMISTRY II- LECTURES
CHEM UN3079	PHYSICAL CHEMISTRY I- LECTURES
CHEM UN3080	PHYSICAL CHEMISTRY II- LECTURES
CHEM GU4071	INORGANIC CHEMISTRY
BIOC GU4501	BIOCHEM I-STRUCTURE/ METABOLISM

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Chemistry

No more than four points of CHEM UN3098 SUPERVISED INDEPENDENT RES may be counted toward the concentration.

Select one of the three chemistry tracks listed below.

PHYS UN1201 & PHYS UN1202	GENERAL PHYSICS I and GENERAL PHYSICS II
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Two semesters of calculus

### Chemistry Tracks

#### Track 1

CHEM UN1403	GENERAL CHEMISTRY I- LECTURES
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CHEM UN1404	GENERAL CHEMISTRY II- LECTURES
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CHEM UN1500	GENERAL CHEMISTRY LABORATORY
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Select 22 points of chemistry at the 2000-level or higher (excluding CHEM UN2408).

#### Track 2

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
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or CHEM UN1507 INTENSVE GENERAL CHEMISTRY-  
LAB

CHEM UN1604	2ND TERM GEN CHEM (INTENSIVE)
-------------	----------------------------------

Select 22 points of chemistry at the 2000-level or higher (excluding CHEM UN2408).

#### Track 3

CHEM UN1507	INTENSVE GENERAL CHEMISTRY-LAB
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CHEM UN2045	INTENSVE ORGANIC CHEMISTRY
-------------	-------------------------------

CHEM UN2046	INTENSVE ORG CHEM-FOR 1ST YEAR
-------------	-----------------------------------

Select 18 points of chemistry at the 2000-level or higher (excluding CHEM UN2408).

## EARTH AND ENVIRONMENTAL SCIENCES

### THE DEPARTMENT OF EARTH AND ENVIRONMENTAL SCIENCES:

Department website: <https://eesc.columbia.edu/>

Morningside Office Location: 556-7 Schermerhorn Hall Extension

Office Contact: 212-854-3614

Lamont-Doherty Earth Observatory Office Location: 106 Geoscience

Office Contact: 845-365-8550

#### **Co-Directors of Undergraduate Studies:**

Terry Plank and Joerg Schaefer  
[dees-dus@columbia.edu](mailto:dees-dus@columbia.edu)

#### **Director of Academic Administration and Finance:**

Kaleigh Matthews,  
[kaleighm@ldeo.columbia.edu](mailto:kaleighm@ldeo.columbia.edu)

**Undergraduate Program Manager:** Julianna Russo,  
[jr4432@columbia.edu](mailto:jr4432@columbia.edu)

### THE STUDY OF EARTH AND ENVIRONMENTAL SCIENCES:

The undergraduate programs in the Department of Earth and Environmental Sciences provide an understanding of the natural functioning of our planet and considers the consequences of human interactions with it. Our program for majors aims to convey an understanding of how the complex Earth system works at a level that encourages students to think creatively about the Earth system processes and how to address multidisciplinary environmental problems. The breadth of material covered provides an excellent background for those planning to enter the professions of law, business, diplomacy, public policy, teaching, journalism, etc. At the same time, the program provides sufficient depth so that our graduates are prepared for graduate school in one of the Earth sciences. The program can be adjusted to accommodate students with particular career goals in mind.

All majors, minors, and concentrators, when planning their programs of study, should regularly consult the directors of



undergraduate studies and make themselves aware of the requirements for their particular program.

## STUDENT ADVISING

Earth Science and Environmental Science Majors, Minors, and Concentrators:

DUS: Terry Plank, [dees-dus@columbia.edu](mailto:dees-dus@columbia.edu)

Climate System Science and Climate and Sustainability Majors and Minors:

DUS: Joerg Schaefer, [dees-dus@columbia.edu](mailto:dees-dus@columbia.edu)

All Programs:

Undergraduate Program Manager: Julianna Russo, [jr4432@columbia.edu](mailto:jr4432@columbia.edu)

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

To check if AP credits will fulfill program requirements, specifically the Supporting Courses requirement, please contact the DUS.

AP Environmental Science does not fulfill any DEES major, minor, or concentration requirements.

### Barnard College Courses

Courses taken at Barnard College can count towards the Breadth requirement if they are science-based and 2000 level or above. Barnard courses with STEM prerequisites can count towards the Depth requirement. To check if Barnard College courses will fulfill program requirements, please contact the DUS with the course number, name, and syllabus.

### Transfer Courses

Fulfillment of program requirements by earth, environmental, and/or climate-related transfer courses will be determined by the DUS. Please send your transcript and the course name and syllabi to [dees-dus@columbia.edu](mailto:dees-dus@columbia.edu) for evaluation.

For DEES majors, at least 50% of upper-level courses must be taken at Columbia:

**Climate System Science Majors:** Students must take at least 3 Climate System Core courses, and at least 1 Climate

Solutions, Justice, Policy, Communications course at Columbia, from their designated lists seen in the bulletin. **Earth Science and Environmental Science Majors:** At least 3 Depth/Breadth courses must be taught by a DEES Instructor.

**Trinity College Dublin Dual Degree:** Please send your Trinity College transcripts to [dees-dus@columbia.edu](mailto:dees-dus@columbia.edu) to check which courses will fulfill the Earth Science Major requirements. At least 3 Depth courses and 1 Breadth course, as well as the capstone sequence, must be taken at Columbia.

### Study Abroad Courses

Courses taken abroad must be approved by the DUS ahead of time in order to count towards the major. If you are interested in studying abroad, please consult with the DUS to plan your major requirements accordingly. Typically, students can count supporting courses taken abroad, and any earth, environmental, and/or climate-related courses must be evaluated by the DUS. To check if Study Abroad courses will fulfill program requirements, please contact the DUS with the course syllabus.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Senior Thesis Coursework and Requirements

All students majoring in DEES are required to complete the capstone requirement during their senior year. Depending on your major, you may have more than one option to fulfill this requirement - EESC UN3901 Senior Seminar, EESC U3904 Independent Research in Climate System Science, or an approved Field Course. Please refer to the Requirements page and the DEES website to learn more about the capstone options for each major. Only students who complete the senior thesis may be considered for departmental honors.

### Undergraduate Research Outside of Courses

The department's close affiliations with the Lamont-Doherty Earth Observatory, the American Museum of Natural History (AMNH), NASA's Goddard Institute for Space Studies (GISS), the Earth Institute at Columbia (EI), and several departments within the Fu Foundation School of Engineering and Applied Sciences afford opportunities for student participation in a wide variety of current research programs. Summer employment, research, and additional

educational opportunities are available at Lamont and GISS. The department encourages majors to become involved in a research project by their junior year.

## DEPARTMENT HONORS AND PRIZES

The Department of Earth and Environmental Science awards departmental honors to the major or majors in DEES judged to have the best overall academic record. The award is accorded to no more than 10% of the graduating class, or one student in the case of a class smaller than 10. A grade point average of at least 3.6 in the major and a senior thesis or equivalent research of high quality are required. All students meeting these requirements are automatically considered for departmental honors.

## PROFESSORS

Ryan Abernathey  
 Nicholas Christie-Blick  
 Joel E. Cohen  
 Hugh Ducklow  
 Sonya Dyhrman  
 Peter Eisenberger  
 Göran Ekström  
 Pierre Gentine  
 Steven L. Goldstein  
 Arnold L. Gordon  
 Kevin L. Griffin (Chair)  
 Alex Halliday  
 Sidney R. Hemming (Director of Graduate Studies)  
 Bärbel Hönlisch  
 Peter B. Kelemen  
 Folarin Kolawole  
 Galen McKinley  
 Jerry F. McManus (Associate Chair)  
 Faye McNeill  
 William H. Menke  
 John C. Mutter  
 Meredith Nettles  
 Paul E. Olsen  
 Terry A. Plank (Director of Undergraduate Studies)  
 Lorenzo M. Polvani  
 G. Michael Purdy  
 Maureen Raymo  
 Christopher H. Scholz  
 Adam H. Sobel  
 Marc Spiegelman  
 Martin Stute (Barnard)  
 Maya Tolstoy  
 Renata Wentzcovich

## ASSOCIATE PROFESSORS

Jacqueline Austermann  
 Roisin Commancé  
 Jonathan Kingslake

## ASSISTANT PROFESSORS

Folarin Kolawole  
 Yves Moussallam

## ADJUNCT PROFESSORS

Robert F. Anderson  
 W. Roger Buck IV  
 Denton Ebel  
 John J. Flynn  
 Arthur Lerner-Lam  
 Alberto Malinverno  
 Ronald L. Miller  
 Dorothy M. Peteet  
 Andrew Robertson  
 Joerg M. Schaefer  
 Christopher Small  
 Andreas Thurnherr  
 Felix Waldhauser  
 Spahr C. Webb  
 Gisela Winckler

## ADJUNCT ASSOCIATE PROFESSORS

Anne Bécél

## EMERITUS

Mark Cane  
 Hugh Ducklow  
 Arnold Gordon  
 James Hays  
 Paul Richards  
 Lynn Sykes  
 David Walker

## GUIDELINES FOR ALL EARTH SCIENCE, ENVIRONMENTAL SCIENCE, CLIMATE SYSTEM SCIENCE, AND CLIMATE AND SUSTAINABILITY MAJORS, MINORS, CONCENTRATORS, AND SPECIAL CONCENTRATORS

### Advising

All majors, minors, and concentrators, when planning their programs of study, should regularly consult the directors of undergraduate studies, who can be contacted through the department office on the fifth floor of Schermerhorn. The requirements are different for each major, minor, and concentration and must be met in conjunction with the

general requirements for the bachelor's degree. Declaration of the major must be approved by the department and filed in the departmental office.

## Substitutions and Exceptions

1. Higher-level courses may be used to satisfy supporting mathematics and science requirements for students with Advanced Placement preparation with the permission of the major adviser.
2. In addition to the courses listed for the depth, and breadth and related courses requirements, several graduate-level courses offered in the department as well as several advanced courses offered at Barnard may be substituted with the permission of the major adviser.
3. 1000-level courses in the Earth and Environmental Sciences Department **cannot** be used toward meeting the requirements of the Earth Science major and Environmental Science major, concentrations, or special concentrations. **Please note:** 1000-level courses can be used towards meeting the requirements of the Climate System Science major and Climate and Sustainability major, and some Earth and Environmental Science minors.
4. Double counting is not permitted for minors.
5. EESC UN2330 does not fulfill the Breadth requirement.
6. EESC GU4600 does not fulfill the Depth requirement, this course would only fulfill the Breadth requirement.

## Grading

A grade of C- or better must be obtained for a course to count toward the majors, concentrations, or special concentrations. The grade of P is not acceptable, but a course taken Pass/D/Fail may be counted if and only if the P is uncovered by the Registrar's deadline.

## MAJOR IN EARTH SCIENCE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Minors, Concentrators, and Special Concentrators](#) above.

The major in Earth Science requires a minimum of 45.5 points, distributed as follows:

### Foundation Courses

EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
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Select one of the following:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
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EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
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Students who wish to take both EESC UN2100 EARTH'S ENVIRO SYST: CLIM SYST and EESC UN2300 EARTH'S ENVIRO SYST: LIFE SYST can include one of these under breadth and related fields below.

## Supporting Mathematics and Science Courses

One semester of Calculus at the level of Calculus I or higher (3 credits)

MATH UN1101	CALCULUS I
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Select one of the following three-course sequences:

CHEM UN1403 & CHEM UN1404 & PHYS UN1201	GENERAL CHEMISTRY I-LECTURES and GENERAL CHEMISTRY II-LECTURES and GENERAL PHYSICS I
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CHEM UN1403 & PHYS UN1201 & PHYS UN1202	GENERAL CHEMISTRY I-LECTURES and GENERAL PHYSICS I and GENERAL PHYSICS II
---	---

## Capstone Experience

Select one of the following:

EESC BC3800 & EESC UN3901	ENVR SCIENCE SENIOR SEMINAR and SENIOR SEMINAR
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EESC BC3801 & EESC UN3901	ENVR SCIENCE SENIOR SEM II and SENIOR SEMINAR
---------------------------	---

A six to eight week summer geology field course

## Breadth and Related Fields Requirement

A minimum of 6 points (two courses) chosen with the major adviser are required.

Breadth and related field courses are science courses relevant for an Earth science major that do not require an Earth science background. Several such courses are offered at the 2000-, 3000- and 4000-level in the department and at Barnard. Examples include:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
EESC UN3010	FIELD GEOLOGY
EESC BC3017	ENVIRONMENTAL DATA ANALYSIS
EESC GU4050	GLOBAL ASSMT-REMOTE SENSING
EESC GU4600	EARTH RESOURCES # SUSTAIN DEV

## EESC GU4917 THE EARTH/HUMAN INTERACTIONS

EAAE E2002

Also included among breadth and related fields courses are science, mathematics, statistics, and engineering courses offered by other departments that count toward fulfilling degree requirements in those departments.

Please note that EESC UN2330 SCIENCE FOR SUSTAINABLE DEVPT does not fulfill the Breadth requirement.

## Depth Requirement

A minimum of 12 points (four courses) chosen with the major adviser to provide depth in the field of Earth science.

These courses build on the foundation and supporting courses listed above and provide a coherent focus in some area of Earth science. Depth courses are 3000- and 4000- level courses that carry EESC or supporting science pre-requisites. Students must include at least one of the following in their course of study:

EESC UN3101	Geochemistry for a Habitable Planet
or EESC UN3201	SOLID EARTH DYNAMICS

Please note that EESC GU4600 EARTH RESOURCES # SUSTAIN DEV does not fulfill the Depth requirement, this course would only fulfill the Breadth requirement.

## Areas of Focus

The following areas of focus include one of the courses listed above and three or more additional courses. Students are not required to specialize in a focus area, but examples are given below for those who choose to do so.

### Geological Science

EESC GU4090	INTRO TO GEOCHRONOLGY
EESC GU4113	Mineralogy and Mineral Resources
EESC GU4223	SEDIMENTARY GEOLOGY
EESC GU4230	CRUSTAL DEFORMATION
EESC GU4701	Introduction to Igneous Petrology
EESC GU4887	ISOTOPE GEOLOGY I
EESC GU4947	PLATE TECTONICS AND CLIMATE

It is strongly recommended that students focusing in geological science take the summer geology field course as their capstone experience.

### Geochemistry

EESC UN3015	The Earth's Carbon Cycle
EESC BC3016	ENVIRONMENTAL MEASUREMENTS
EESC BC3200	Ecotoxicology

## EESC GU4090 INTRO TO GEOCHRONOLGY

EESC GU4113 Mineralogy and Mineral Resources

EESC GU4701 Introduction to Igneous Petrology

EESC GU4885 CHEMISTRY OF CONTINENTAL WATERS

EESC GU4887 ISOTOPE GEOLOGY I

EESC GU4926 INTRO TO CHEMICAL OCEANOGRAPHY

It is recommended that students focusing in geochemistry take CHEM UN1403-CHEM UN1404 General Chemistry I and II, and PHYS UN1201 General Physics I as their supporting science sequence.

### Atmosphere and Ocean Science

EESC GU4008 Introduction to Atmospheric Science

EESC GU4920 PALEOCEANOGRAPHY

EESC GU4924 INTRO TO ATMOSPHERIC CHEMISTRY

EESC GU4925 INTRO TO PHYSICAL OCEANOGRAPHY

EESC GU4926 INTRO TO CHEMICAL OCEANOGRAPHY

It is recommended that students focusing on atmosphere and ocean science also take a course in fluid dynamics and a course in differential equations.

### Solid Earth Geophysics

EESC GU4230 CRUSTAL DEFORMATION

EESC GU4300 THE EARTH'S DEEP INTERIOR

EESC GU4937 CENOZOIC PALEOCEANOGRAPHY

EESC GU4947 PLATE TECTONICS AND CLIMATE

EESC GU4949 Introduction to Seismology

It is recommended that students focusing in solid Earth geophysics take PHYS UN1201-PHYS UN1202 General Physics I and II, and CHEM UN1403 General Chemistry I as their supporting science sequence and also take MATH UN1201 Calculus II.

### Climate

EESC UN3015 The Earth's Carbon Cycle

EESC BC3025 HYDROLOGY

EESC GU4008 Introduction to Atmospheric Science

EESC GU4330 INTRO-TERRESTRIAL PALEOCLIMATE

EESC GU4835 Wetlands and Climate Change

EESC GU4920 PALEOCEANOGRAPHY

EESC GU4924 INTRO TO ATMOSPHERIC CHEMISTRY

EESC GU4925 INTRO TO PHYSICAL OCEANOGRAPHY

EESC GU4937 CENOZOIC PALEOCEANOGRAPHY

**Paleontology**

EESC GU4223	SEDIMENTARY GEOLOGY
EESC GU4550	Plant Ecophysiology
EESC GU4920	PALEOCEANOGRAPHY
EESC GU4924	INTRO TO ATMOSPHERIC CHEMISTRY
EESC GU4937	CENOZOIC PALEOCEANOGRAPHY

It is recommended that students focusing in paleontology take EESC UN2300 Earth's Environmental Systems: The Life System, as one of their foundation courses.

## MAJOR IN ENVIRONMENTAL SCIENCE

Please read Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Minors, Concentrators, and Special Concentrators above.

The major in Environmental Science requires a minimum of 47 points, distributed as follows:

**Foundation Courses**

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

**Supporting Mathematics and Science Courses**

One semester of Calculus at the level of Calculus I or higher (3 credits)

MATH UN1101	CALCULUS I
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Select one of the following three-course sequences:

CHEM UN1403 & CHEM UN1404 & PHYS UN1201	GENERAL CHEMISTRY I-LECTURES and GENERAL CHEMISTRY II-LECTURES and GENERAL PHYSICS I
CHEM UN1403 & PHYS UN1201 & PHYS UN1202	GENERAL CHEMISTRY I-LECTURES and GENERAL PHYSICS I and GENERAL PHYSICS II
CHEM UN1403 & EEEB UN2001 & PHYS UN1201	GENERAL CHEMISTRY I-LECTURES and ENVIRONMENTAL BIOLOGY I and GENERAL PHYSICS I

**Capstone Experience**

EESC BC3800	ENVIR SCIENCE SENIOR SEMINAR
or EESC BC3801	ENVIR SCIENCE SENIOR SEM II
EESC UN3901	SENIOR SEMINAR

**Breadth and Related Fields Requirement**

A minimum of 6 points (two courses) chosen with the major adviser are required.

Breadth and related field courses are science courses relevant for an environmental science major that do not require an environmental science background. Several such courses are offered at the 2000-, 3000- and 4000-level in the department and at Barnard. Examples include:

EESC BC3017	ENVIRONMENTAL DATA ANALYSIS
EESC GU4050	GLOBAL ASSMT-REMOTE SENSING
EESC GU4600	EARTH RESOURCES # SUSTAIN DEV
EESC GU4917	THE EARTH/HUMAN INTERACTIONS
EESC UN3010	FIELD GEOLOGY

Also included among breadth and related fields courses are science, mathematics, statistics, and engineering courses offered by other departments that count toward fulfilling degree requirements in those departments.

Please note that EESC UN2330 SCIENCE FOR SUSTAINABLE DEVPT does not fulfill the Breadth requirement.

**Depth Requirement**

A minimum of 9 points (three courses) chosen with the major adviser to provide depth in the field of environmental science.

These courses build on the foundation and supporting courses listed above and provide a coherent focus in some area of environmental science. Depth courses are 3000- and 4000- level courses that carry EESC or supporting science pre-requisites. Students must include at least one of the following in their course of study:

EESC UN3101	Geochemistry for a Habitable Planet
or EESC UN3201	SOLID EARTH DYNAMICS

Please note that EESC GU4600 EARTH RESOURCES # SUSTAIN DEV does not fulfill the Depth Requirement, this course would only fulfill the Breadth requirement.



## Areas of focus

The following areas of focus include one of the courses listed above and two or more additional courses. Students are not required to specialize in a focus area, but examples are given below for those who choose to do so.

### Environmental Geology

EESC GU4076	Geologic Mapping
EESC GU4480	Paleobiology and Earth System History

EAEE E3221

It is recommended that students focusing in environmental geology also take EESC W4050 Remote Sensing.

### Environmental Geochemistry

EESC UN3015	The Earth's Carbon Cycle
EESC GU4885	CHEMISTRY OF CONTINENTL WATERS
EESC GU4887	ISOTOPE GEOLOGY I
EESC GU4924	INTRO TO ATMOSPHERIC CHEMISTRY
EESC GU4888	Stable Isotope Geochemistry
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY

### Hydrology

EESC GU4076	Geologic Mapping
EESC GU4835	Wetlands and Climate Change
EESC GU4885	CHEMISTRY OF CONTINENTL WATERS
EESC BC3025	HYDROLOGY

EAEE E3221

### Climate Change

EESC UN3015	The Earth's Carbon Cycle
EESC GU4008	Introduction to Atmospheric Science
EESC GU4330	INTRO-TERRESTRIAL PALEOCLIMATE
EESC GU4480	Paleobiology and Earth System History
EESC GU4835	Wetlands and Climate Change
EESC GU4920	PALEOCEANOGRAPHY

It is recommended that students focusing in environmental geology also take EESC GU4050 Remote Sensing.

### Energy and Resources

EESC GU4076	Geologic Mapping
EESC GU4701	Introduction to Igneous Petrology

EAEE E2002

## MAJOR IN CLIMATE SYSTEM SCIENCE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and](#)

[Sustainability Majors, Minors, Concentrators, and Special Concentrators](#) above.

The major in Climate System Science requires a minimum of 43.5 points, distributed as follows:

## Foundational Courses

7.5 points minimum (2 courses):

### Required:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
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### And any one of:

EESC UN1009	GLOBAL WARMING FOR GLOBAL LEADERS
EESC UN1030	OCEANOGRAPHY
EESC UN1201	Environmental Risks and Disasters
EESC UN1600	EARTH RESOURCES # SUSTAIN DEV
or EESC GU4600	EARTH RESOURCES # SUSTAIN DEV
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
EESC UN2330	SCIENCE FOR SUSTAINABLE DEVPT

## Supporting Courses

12 points minimum (4 courses):

**One semester of Calculus at the level of Calculus I or higher:**

MATH UN1101	CALCULUS I
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### And any three courses:

PHYS UN1201	GENERAL PHYSICS I
PHYS UN1202	GENERAL PHYSICS II
CHEM UN1403	GENERAL CHEMISTRY I-LECTURES
CHEM UN1404	GENERAL CHEMISTRY II-LECTURES
EEEB UN2001	ENVIRONMENTAL BIOLOGY I
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

## Climate System Core

15 points minimum (five courses):

### Required: at least one Paleoclimate Course

EESC GU4235	SEA LEVEL CHANGE
EESC GU4330	INTRO-TERRESTRIAL PALEOCLIMATE
EESC GU4480	Paleobiology and Earth System History

EESC GU4920	PALEOCEANOGRAPHY
EESC GU4937	CENOZOIC PALEOCEANOGRAPHY

**Required: at least one Modern Climate Course**

EESC UN3031	CHEMISTRY OF CLIMATE
EESC UN3109	CLIMATE PHYSICS
EESC GU4008	Introduction to Atmospheric Science
EESC GU4020	HUMANS # THE CARBON CYCLE
EESC GU4040	CLIM THERMODYN/ENERGY TRANSFER
EESC GU4835	Wetlands and Climate Change
EESC GU4923	Biological Oceanography
EESC GU4925	INTRO TO PHYSICAL OCEANOGRAPHY
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY
EESC GU4930	EARTH'S OCEANS # ATMOSPHERE

**Could include: Other Climate System Course**

EESC BC3109	Hydrology
EESC UN3101	Geochemistry for a Habitable Planet
EESC UN3201	SOLID EARTH DYNAMICS
EESC GU4220	GLACIOLOGY
EESC GU4835	Wetlands and Climate Change
EESC GU4885	CHEMISTRY OF CONTINENTL WATERS
EESC GU4923	Biological Oceanography
EESC GU4924	INTRO TO ATMOSPHERIC CHEMISTRY
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY

**Could include one: Supporting EESC Course**

EESC UN3400	COMPUTATIONAL EARTH SCIENCE
EESC GU4210	GEOPHYSICAL FLUID DYNAMICS
EESC GU4223	SEDIMENTARY GEOLOGY
EESC GU4230	CRUSTAL DEFORMATION
EESC GU4887	ISOTOPE GEOLOGY I
EESC GU4888	Stable Isotope Geochemistry

## Climate Solutions, Justice, Policy and Communication

6 points minimum (any two courses below):

**Solutions Courses**

EESC BC3045	RESPONDING TO CLIMATE CHANGE (Barnard College)
ARCH UN3120	CITY, LANDSCAPE, # ECOLOGY
EAEE E2002	

EAEE E2100	A BETTER PLANET BY DESIGN
EAEE E4001	INDUST ECOLOGY-EARTH RESOURCES
EAEE E4002	ALTERNATIVE ENERGY RESOURCES
EAEE E4006	Field methods for environmental engineering
EAEE E4300	INTRO TO CARBON MANAGEMENT
EAEE E4302	CARBON CAPTURE
EAEE E4301	CARBON STORAGE
EAEE E4305	CO2 UTILIZATION AND CONVERSION
CIEE E3250	
MECE E4211	ENERGY SOURCES AND CONVERSION
SDEV GU4250	CLIMATE CHANGE: RESILIENCE # ADAPTATION

**Climate Justice, Policy, Economics**

ANTH BC3932	CLIMATE CH./GLOB. MIGRATION/ HUMAN RIGHTS (Barnard College)
ANTH V3861	
ARCH UN3400	ENVIRONMENTAL VISUALIZATIONS OF NYC
ECON BC3039	ENVIRONMENTAL & NAT. RES. ECONOMICS (Barnard College)
ECON BC3040	ENVIRONMENTAL LAW (Barnard College)
ECON UN2257	THE GLOBAL ECONOMY
ECON GU4750	GLOBALIZATION # ITS RISKS
POLS UN3648	GOVERNING THE GLOBAL ECONOMY
POLS GU4814	GLOBAL ENERGY: SECURITY/GEOPOL
POLS GU4863	INTERNATIONAL POLITICAL ECONOMY OF DEVELOPING COUNTRIES
SDEV UN3355	CLIMATE CHANGE AND LAW
SDEV UN3360	DISASTERS AND DEVELOPMENT
SDEV UN2050	ENVIRONMENTAL POLICY AND GOVERNANCE

## Climate System Capstone

3 points minimum (one course):

EESC UN3904	INDEPENDENT RESEARCH IN CLIMATE SYSTEM SCIENCE
EESC UN3901	SENIOR SEMINAR (taken twice, in fall and spring)
or EESC BC3800 followed by EESC UN3901	

Approved Field Course focused on the Climate System  
~6 weeks, must be proposed and then approved by DUS

## MAJOR IN CLIMATE AND SUSTAINABILITY

Please read Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Minors, Concentrators, and Special Concentrators above.

The major in Climate and Sustainability is a joint major between the Undergraduate Program in Sustainable Development and DEES, and requires a minimum of 46.5 points, distributed as follows:

### Climate and Sustainability Foundations

Two courses:

SDEV UN2300	CHALLENGES OF SUSTAINABLE DEV
EESC UN2330	SCIENCE FOR SUSTAINABLE DEVPT

### Basic Disciplinary Foundations

Five courses:

#### A. Natural Science Courses (2):

**Required:**

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
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**One of the following:**

EESC UN1201	Environmental Risks and Disasters
EESC UN1600	EARTH RESOURCES # SUSTAIN DEV
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

#### B. Social Science Courses (2):

**Required:**

SDEV UN2100	Introduction to Climate Justice
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**One of the following:**

ECON UN1105	PRINCIPLES OF ECONOMICS
POLS UN1601	INTERNATIONAL POLITICS
SDEV UN2000	INTRO TO ENVIRONMENTAL LAW
SDEV UN2050	ENVIRONMENTAL POLICY AND GOVERNANCE
ANTH BC2427	ANTHROPOLOGY OF CLIMATE CHANGE

SDEV UN3400	HUMAN POPULATIONS # SDEV
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### C. Quantitative Foundations Course (1)

**One of the following:**

STAT UN1201	CALC-BASED INTRO TO STATISTICS
MATH UN2010	LINEAR ALGEBRA
EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
EESC BC3017	ENVIRONMENTAL DATA ANALYSIS

Note: Taking Introduction to Statistics and Calculus separately will not fulfill the quantitative requirement.

### Climate and Sustainability: Complexities and Analyses

Four courses:

**Two courses from the following:**

TBD####	Climate Change: Mitigation
SDEV GU4250	CLIMATE CHANGE: RESILIENCE # ADAPTATION
ANTH BC3932	CLIM CHNG/GLOBAL MIGR/HUM RGT
SDEV UN3355	CLIMATE CHANGE AND LAW
SDEV UN3366	ENERGY LAW
EESC GU4235	SEA LEVEL CHANGE
EAEE E4304	CLOSING THE CARBON CYCLE

**One of the following Natural Science courses:**

EESC GU4220	GLACIOLOGY
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY
EESC GU4923	Biological Oceanography
EESC GU4925	INTRO TO PHYSICAL OCEANOGRAPHY
EESC GU4835	Wetlands and Climate Change
EESC GU4330	INTRO-TERRESTRIAL PALEOCLIMATE
EESC GU4920	PALEOCEANOGRAPHY
EESC GU4937	CENOZOIC PALEOCEANOGRAPHY
EESC GU4235	SEA LEVEL CHANGE
EAEE E4304	CLOSING THE CARBON CYCLE

**One of the following Social Science courses:**

ANTH 3861	Anthropology of the Anthropocene
POLS 4811	Global Energy: Security/Geopolitics
SDEV 4240	Science Communications
ANTH BC3932	CLIM CHNG/GLOBAL MIGR/HUM RGT

SDEV UN3355	CLIMATE CHANGE AND LAW
SDEV UN3366	ENERGY LAW
SDEV GU4050	US WATER # ENERGY POLICY
ECON BC3039	Environmental and Natural Resource Economics

## Electives

Select two courses from the following areas. If you select Area 1, you must complete two thesis courses, and these will fulfill the elective requirement:

### Area 1:

EESC UN3901	SENIOR SEMINAR
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### Area 2:

Additional courses listed under the *Climate and Sustainability: Complexities and Analysis* requirement

### Area 3:

Additional quantitative or qualitative methods or skills courses:

STAT UN2103	APPLIED LINEAR REG ANALYSIS
STAT UN3105	APPLIED STATISTICAL METHODS
STAT UN3106	APPLIED MACHINE LEARNING
STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4205	LINEAR REGRESSION MODELS
EAEE E4257	ENVIR DATA ANALYSIS # MODELING
EESC BC3050	BIG DATA WITH PYTHON
SDEV UN3390	GIS FOR SUSTAINABLE DEVELOPMNT
SDEV UN3450	SPATIAL ANALYSIS FOR SDEV
SDEV GU4101	QUAL RESEARCH METHODS SDEV

## Practicum

One course:

### One of the following:

SDEV UN3998	SUPERVISED INDIVIDUAL RESEARCH
SDEV GU4500	SUSTAINABILITY AND THE MEANING OF PLACE ON CUTTYHUNK ISLAND

SDEV GU4550	The New York City Watershed: From Community Displacement to Collaboration and Climate Adaptation
SUMA PS4734	Earth Institute Practicum

## Capstone Workshop

One course:

### One of the following:

SDEV UN3280	WORKSHOP IN SUSTAINABLE DEVPT
SDEV UN3550	BANGLADSH:LIFE-TECT ACTV DELTA
SDEV GU4400	Sustainable Development in Rwanda

## MINOR IN EARTH AND ENVIRONMENTAL SCIENCE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Minors, Concentrators, and Special Concentrators](#) above.

The minor in Earth and Environmental Science requires a minimum of 18 points, distributed as follows:

### Foundational Courses

9 points (two courses):

Select two of the following:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

### Depth and Breadth Courses

9 points minimum (three courses):

Any three additional 1000, 2000, 3000, or 4000-level EESC courses.

## MINOR IN CLIMATE SYSTEM SCIENCE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Minors, Concentrators, and Special Concentrators](#) above.

The minor in Climate System Science requires a minimum of 16.5 points, distributed as follows:

## Foundational Courses

7.5 points (two courses):

Both required:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN1009	GLOBAL WARMING FOR GLOBAL LEADERS

## Climate System Module

6 points minimum (any two courses below):

Two courses from the lists below:

EESC UN1030	OCEANOGRAPHY
EESC UN1201	Environmental Risks and Disasters
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
EESC UN2330	SCIENCE FOR SUSTAINABLE DEVPT

### Paleoclimate Courses

EESC GU4235	SEA LEVEL CHANGE
EESC GU4330	INTRO-TERRESTRIAL PALEOCLIMATE
EESC GU4480	Paleobiology and Earth System History
EESC GU4920	PALEOCEANOGRAPHY
EESC GU4937	CENOZOIC PALEOCEANOGRAPHY

### Modern Climate Courses

EESC UN3031	CHEMISTRY OF CLIMATE
EESC UN3109	CLIMATE PHYSICS
EESC GU4008	Introduction to Atmospheric Science
EESC GU4020	HUMANS # THE CARBON CYCLE
EESC GU4040	CLIM THERMODYN/ENERGY TRANSFER
EESC GU4925	INTRO TO PHYSICAL OCEANOGRAPHY
EESC GU4930	EARTH'S OCEANS # ATMOSPHERE

### Other Climate System Courses

EESC BC3109	Hydrology
EESC UN3101	Geochemistry for a Habitable Planet
EESC UN3201	SOLID EARTH DYNAMICS
EESC GU4220	GLACIOLOGY
EESC GU4835	Wetlands and Climate Change

EESC GU4885	CHEMISTRY OF CONTINENTAL WATERS
EESC GU4923	Biological Oceanography
EESC GU4924	INTRO TO ATMOSPHERIC CHEMISTRY
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY

### Supporting EESC Courses

EESC UN3400	COMPUTATIONAL EARTH SCIENCE
EESC GU4210	GEOPHYSICAL FLUID DYNAMICS
EESC GU4223	SEDIMENTARY GEOLOGY
EESC GU4230	CRUSTAL DEFORMATION
EESC GU4887	ISOTOPE GEOLOGY I
EESC GU4888	Stable Isotope Geochemistry

## Climate Solutions, Justice, Policy and Communication

3 points minimum (any one course below):

### Solutions Courses

EESC BC3045	RESPONDING TO CLIMATE CHANGE (Barnard College)
ARCH UN3120	CITY, LANDSCAPE, # ECOLOGY
EAEE E2002	
EAEE E2100	A BETTER PLANET BY DESIGN
EAEE E4001	INDUST ECOLOGY-EARTH RESOURCES
EAEE E4002	ALTERNATIVE ENERGY RESOURCES
EAEE E4006	Field methods for environmental engineering
EAEE E4300	INTRO TO CARBON MANAGEMENT
EAEE E4302	CARBON CAPTURE
EAEE E4301	CARBON STORAGE
EAEE E4305	CO2 UTILIZATION AND CONVERSION
CIEE E3250	
MECE E4211	ENERGY SOURCES AND CONVERSION
SDEV GU4250	CLIMATE CHANGE: RESILIENCE # ADAPTATION

### Climate Justice, Policy, Economics

ANTH BC3932	CLIMATE CH./GLOB. MIGRATION/ HUMAN RIGHTS (Barnard College)
ANTH V3861	
ARCH UN3400	ENVIRONMENTAL VISUALIZATIONS OF NYC
ECON BC3039	ENVIRONMENTAL & NAT. RES. ECONOMICS (Barnard College)



ECON BC3040 ENVIRONMENTAL LAW (Barnard College)

ECON UN2257 THE GLOBAL ECONOMY

ECON GU4750 GLOBALIZATION # ITS RISKS

POLS UN3648 GOVERNING THE GLOBAL ECONOMY

POLS GU4814 GLOBAL ENERGY: SECURITY/GEOPOL

POLS GU4863 INTERNATIONAL POLITICAL ECONOMY OF DEVELOPING COUNTRIES

SDEV UN3355 CLIMATE CHANGE AND LAW

SDEV UN3360 DISASTERS AND DEVELOPMENT

## MINOR IN EARTH AND SPACE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Minors, Concentrators, and Special Concentrators](#) above.

The minor in Earth and Space requires a minimum of 15 points, distributed as follows:

### Introductory Course

3 points minimum (one course):

One of the following:

ASTR UN1453 ANOTHER EARTH

ASTR BC1753 LIFE IN THE UNIVERSE

EESC UN2300 EARTH'S ENVIRO SYST: LIFE SYST

### Astronomy Courses

6 points minimum (two courses):

Two of the following:

ASTR UN1403 EARTH, MOON, AND PLANETS

ASTR UN1404 STARS, GALAXIES # COSMOLOGY

ASTR UN1420 Galaxies and Cosmology

ASTR UN1836 STARS AND ATOMS

Or the following ASTR sequence:

ASTR UN2001 INTRO TO ASTROPHYSICS I

ASTR UN2002 INTRO TO ASTROPHYSICS II

### DEES Courses

6 points minimum (two courses):

One of the following:

EESC UN2200 EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH

EESC UN3201 SOLID EARTH DYNAMICS

Plus one of the following:

EESC UN2100 EARTH'S ENVIRO SYST: CLIM SYST

EESC UN3101 Geochemistry for a Habitable Planet

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

Concentrations are available to students who entered Columbia in or before Fall 2023. The requirements for the Bachelor of Arts degree, and the role of the concentration in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Concentrations are not available to students who entered Columbia in or after Fall 2024.

### Concentration in Earth Science

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators](#) above.

The concentration in Earth science requires a minimum of 24 points, distributed as follows:

### Foundation Courses

EESC UN2100 EARTH'S ENVIRO SYST: CLIM SYST

or EESC UN2300 EARTH'S ENVIRO SYST: LIFE SYST

EESC UN2200 EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH

### Supporting Mathematics and Science Courses

Two science or mathematics courses (6-7 points) selected from among those listed for the Earth science major above.

### Depth and Breadth and Related Fields Requirements

A minimum of 9 points (typically three courses) is required as follows:

EESC UN3101 Geochemistry for a Habitable Planet

or EESC UN3201 SOLID EARTH DYNAMICS

One additional course chosen from those listed under Depth Requirement for the earth science major above.

The third course selected from those listed under either Depth Requirement or Breadth and Related Fields Requirement for the earth science major above.

## Concentration in Environmental Science

Please read Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators above.

The concentration in environmental science requires a minimum of 25.5 points, distributed as follows:

### Foundation Courses

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

### Supporting Mathematics and Science Courses

Two science or mathematics courses (6-7 points) selected from among those listed for the environmental science major above.

### Depth and Breadth and Related Fields Requirements

A minimum of 6 points (two courses) is required as follows:

EESC UN3101	Geochemistry for a Habitable Planet
or EESC UN3201	SOLID EARTH DYNAMICS

One additional course selected from those listed under either Depth Requirement or Breadth and Related Fields Requirement for the environmental science major above.

## Special Concentration in Environmental Science for Majors in Environmental Biology

Please read Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators above.

The Department of Earth and Environmental Sciences sponsors a special concentration which must be done in conjunction with the environmental biology major. Students should be aware that they must complete the environmental biology major in order to receive credit for the special concentration.

The special concentration in environmental science requires a minimum of 31.5 points, distributed as follows:

### Introductory Environmental Science (13.5 points)

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST

### Introductory Science (6 points)

Two courses in chemistry, physics, mathematics, or environmental biology from the supporting mathematics and science list for the environmental science major above.

### Advanced Environmental Science (12 points)

Four courses at the 3000-level or above chosen from those recommended for the environmental science major above.

Advanced courses used to fulfill requirements in the environmental biology major cannot count toward requirements for the special concentration.

## Special Concentration in Environmental Biology for Majors in Environmental Science

Please read Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators above.

The Department of Ecology, Evolution, and Environmental Biology sponsors a special concentration which must be done in conjunction with the environmental science major. Students should be aware that they must complete the environmental science major in order to receive credit for the special concentration.

The special concentration in environmental biology requires a minimum of 39 points, distributed as follows:

### Introductory Environmental Biology and Environmental Science (17 points)

EEEB UN2001	ENVIRONMENTAL BIOLOGY I
EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EEEB UN2002	ENVIRONMENTAL BIOLOGY II

## Introductory Science (13 points)

Select one of the following chemistry sequences:

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
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CHEM UN1604 & CHEM UN2507	2ND TERM GEN CHEM (INTENSIVE) and Intensive General Chemistry Laboratory
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One term of statistics such as the following:

STAT UN1101	INTRODUCTION TO STATISTICS
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STAT UN1201	CALC-BASED INTRO TO STATISTICS
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BIOL BC2286	STATISTICS # RESEARCH DESIGN
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EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
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EEEB UN3087	CONSERVATION BIOLOGY
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## Advanced Environmental Biology (9 points)

Three additional advanced EEEB courses (3000-level and above), each chosen from a different curricular area (evolution/genetics, ecology/behavior/conservation, anatomy/physiology/diversity, biology laboratory courses).

Advanced courses used to fulfill requirements in the environmental science major cannot count toward requirements for the special concentration.

## Sustainable Development

Students interested in sustainable development should refer to the *Sustainable Development* section in this Bulletin.

## CONCENTRATION IN ENVIRONMENTAL SCIENCE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators](#) above.

The concentration in environmental science requires a minimum of 25.5 points, distributed as follows:

### Foundation Courses

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
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EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
-------------	--

EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
-------------	-----------------------------------

## Supporting Mathematics and Science Courses

Two science or mathematics courses (6-7 points) selected from among those listed for the environmental science major above.

## Depth and Breadth and Related Fields Requirements

A minimum of 6 points (two courses) is required as follows:

EESC UN3101	Geochemistry for a Habitable Planet
-------------	--

or EESC UN3201	SOLID EARTH DYNAMICS
----------------	----------------------

One additional course selected from those listed under either Depth Requirement or Breadth and Related Fields Requirement for the environmental science major above.

## SPECIAL CONCENTRATION IN ENVIRONMENTAL SCIENCE FOR MAJORS IN ENVIRONMENTAL BIOLOGY

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators](#) above.

The Department of Earth and Environmental Sciences sponsors a special concentration which must be done in conjunction with the environmental biology major. Students should be aware that they must complete the environmental biology major in order to receive credit for the special concentration.

The special concentration in environmental science requires a minimum of 31.5 points, distributed as follows:

## Introductory Environmental Science (13.5 points)

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
-------------	-----------------------------------

EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
-------------	--

EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
-------------	-----------------------------------

## Introductory Science (6 points)

Two courses in chemistry, physics, mathematics, or environmental biology from the supporting mathematics and science list for the environmental science major above.

## Advanced Environmental Science (12 points)

Four courses at the 3000-level or above chosen from those recommended for the environmental science major above.

Advanced courses used to fulfill requirements in the environmental biology major cannot count toward requirements for the special concentration.

## SPECIAL CONCENTRATION IN ENVIRONMENTAL BIOLOGY FOR MAJORS IN ENVIRONMENTAL SCIENCE

Please read [Guidelines for all Earth Science, Environmental Science, Climate System Science, and Climate and Sustainability Majors, Concentrators, and Special Concentrators](#) above.

The Department of Ecology, Evolution, and Environmental Biology sponsors a special concentration which must be done in conjunction with the environmental science major. Students should be aware that they must complete the environmental science major in order to receive credit for the special concentration.

The special concentration in environmental biology requires a minimum of 39 points, distributed as follows:

### Introductory Environmental Biology and Environmental Science (17 points)

EEEB UN2001	ENVIRONMENTAL BIOLOGY I
EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EEEB UN2002	ENVIRONMENTAL BIOLOGY II

### Introductory Science (13 points)

Select one of the following chemistry sequences:

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I-LECTURES and GENERAL CHEMISTRY II-LECTURES
CHEM UN1604 & CHEM UN2507	2ND TERM GEN CHEM (INTENSIVE) and Intensive General Chemistry Laboratory

One term of statistics such as the following:

STAT UN1101	INTRODUCTION TO STATISTICS
-------------	----------------------------

STAT UN1201	CALC-BASED INTRO TO STATISTICS
BIOL BC2286	STATISTICS # RESEARCH DESIGN
EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
EEEB UN3087	CONSERVATION BIOLOGY

## Advanced Environmental Biology (9 points)

Three additional advanced EEEB courses (3000-level and above), each chosen from a different curricular area (evolution/genetics, ecology/behavior/conservation, anatomy/physiology/diversity, biology laboratory courses).

Advanced courses used to fulfill requirements in the environmental science major cannot count toward requirements for the special concentration.

## ETHNICITY AND RACE STUDIES

### THE CENTER FOR THE STUDY OF ETHNICITY AND RACE

Department Website: [Center for the Study of Ethnicity and Race](#)

Office location: 420 Hamilton Hall

Office contact: 212-854-0510, 212-854-0507

**Director of Undergraduate Studies:** Dr. Bahia Munem; bmm2194@columbia.edu; 212-854-2058

**Assistant Director:** May Niiya; mkn2129@columbia.edu; 212-854-0510

**Program Coordinator:**

## ETHNICITY AND RACE STUDIES

Founded in 1999, the Center for the Study of Ethnicity and Race (CSER) is an interdisciplinary intellectual space whose mission is to advance the most innovative teaching, research, and public discussion about race and ethnicity. To promote its mission, the Center organizes conferences, seminars, exhibits, film screenings, and lectures that bring together faculty, undergraduates, and graduate students with diverse interests and backgrounds. Moreover, CSER partners with departments, centers, and institutes at Columbia, as well as with colleagues and organizations on and off campus, in order to reach new audiences and facilitate an exchange of knowledge.

## STUDENT ADVISING

### Consulting Advisers

Information to be added

### Enrolling in Classes

Information to be added

### Preparing for Graduate Study

Information to be added

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Barnard College Courses

To ensure that Barnard College courses complement the major and integrate effectively with the major's requirements, students are encouraged to consult with CSER's undergraduate adviser as early in their academic program as possible. The director of undergraduate studies can advise students in what may be relevant programs for their areas.

### Transfer Courses

To ensure that transfer courses complement the major and integrate effectively with the major's requirements, students are encouraged to consult with CSER's undergraduate adviser as early in their academic program as possible. The director of undergraduate studies can advise students in what may be relevant programs for their areas.

### Study Abroad Courses

Students are highly encouraged to participate in study-abroad programs through the [Center for Undergraduate Global Engagement](#), as they represent an exciting opportunity to learn new languages and live in countries that are germane to their areas of study. In addition, travel abroad can enrich every student's intellectual experience by providing an opportunity to learn about other perspectives on ethnicity and race.

In the past, students have participated in study-abroad programs in many parts of the world, including Australia, the Dominican Republic, Mexico, and South Africa. To ensure that study abroad complements the major and integrates effectively with the major's requirements, students are encouraged to consult with CSER's undergraduate adviser as early in their academic program as possible. The director of undergraduate studies can advise students in what may be relevant programs for their areas.

### Summer Courses

To ensure that summer courses complement the major and integrate effectively with the major's requirements, students are encouraged to consult with CSER's undergraduate

adviser as early in their academic program as possible. The director of undergraduate studies can advise students in what may be relevant programs for their areas.

## CORE CURRICULUM CONNECTIONS

Information to be added

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Senior Thesis Coursework and Requirements

Majors who elect to follow the Honors track must complete at least four CSER elective courses within their area of specialization, and maintain a 3.6 GPA in the major. In lieu of a fifth elective, Honors majors are required to enroll in the following course in the spring semester of their senior year, during which they are required to write a thesis:

CSER UN3990 Senior Project Seminar (4 points)

Honors majors are required to present their senior essays at the annual undergraduate symposium in April. Students may fulfill this option in one of the following two ways:

1. By matriculating in the Senior Thesis course and writing the thesis under the supervision of the course faculty.
2. By taking an additional 4-point seminar where a major paper is required and further developing the paper into a thesis length work (minimum of 30 pages) under the supervision of a CSER faculty member.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

CSER majors may choose to write and/or produce an honors project. The senior thesis gives undergraduate majors the opportunity to engage in rigorous, independent, and original research on a specific topic of their choosing. If a monograph, the honors thesis is expected to be 35-50 pages in length. Honors projects can also take other forms, such as video or websites. These projects also require a written component, but of a shorter length than the traditional thesis. During their senior year, honors students perform research as part of [CSER UN3990 Senior Project Seminar](#). Senior projects are due in early April. The Honors Thesis is an excellent option for any student interested in pursuing a Master's degree or Ph.D. Students should consult with their [director of undergraduate studies](#) no later than the beginning of the first term of their senior year if they wish to be considered for departmental honors. Students who



are awarded departmental honors are notified by their department in mid-May.

In order to qualify for departmental honors, students must satisfy all the requirements for the major, maintain a GPA of at least 3.6 in the major, and complete a high quality honors project. In addition, each student is expected to meet periodically with his or her supervising project adviser and preceptor. Although the senior thesis is a prerequisite for consideration for departmental honors, all Ethnicity and Race studies majors are strongly encouraged to consider undertaking thesis work even if they do not wish to be considered for departmental honors.

## Academic Prizes

In addition to departmental honors, CSER also confers the following awards to two graduating seniors:

### CSER Award for Outstanding Thesis

- A CSER faculty committee will review all senior projects and will select one for the Outstanding Thesis award.
- As part of its deliberation process, the committee reviews recommendations made by CSER faculty, the Modes of Inquiry# course instructor and the CSER preceptor. In order to receive this award, the student must keep a GPA of 3.6 or above in the major courses.

### CSER Award for Academic Excellence

- CSER confers this award to a student who has consistently demonstrated her/his intellectual capacity in and outside the classroom. In order to receive this award, the student must keep a GPA of 3.6 or above in the major courses.

## CORE FACULTY AND EXECUTIVE COMMITTEE

- Catherine Fennell ([ckf2106@columbia.edu](mailto:ckf2106@columbia.edu))
- Audra Simpson ([as3575@columbia.edu](mailto:as3575@columbia.edu))
- Bahia Munem ([bmm2194@columbia.edu](mailto:bmm2194@columbia.edu))
- Carlos Alonso Nugent ([can2162@columbia.edu](mailto:can2162@columbia.edu))
- Claudio Lomnitz ([cl2510@columbia.edu](mailto:cl2510@columbia.edu))
- Darius V. Echeverria ([dve2101@columbia.edu](mailto:dve2101@columbia.edu))
- Deborah Paredez ([d.paredez@columbia.edu](mailto:d.paredez@columbia.edu))
- Frances Negron-Muntaner ([fn2103@columbia.edu](mailto:fn2103@columbia.edu))
- Jennifer Lee ([lee.jennifer@columbia.edu](mailto:lee.jennifer@columbia.edu))
- Karl Jacoby ([kj2305@columbia.edu](mailto:kj2305@columbia.edu))
- Mae Ngai ([mn53@columbia.edu](mailto:mn53@columbia.edu))
- Manan Ahmed ([ma3179@columbia.edu](mailto:ma3179@columbia.edu))
- Marie Myung-Ok Lee ([mml2189@columbia.edu](mailto:mml2189@columbia.edu))
- Matt Sandler ([mfs2001@columbia.edu](mailto:mfs2001@columbia.edu))
- Michael J. Witgen ([mw3528@columbia.edu](mailto:mw3528@columbia.edu))

- Sayantani Dasgupta ([sd2030@columbia.edu](mailto:sd2030@columbia.edu))
- Shana L. Redmond ([slr2215@columbia.edu](mailto:slr2215@columbia.edu))

## ADJUNCTS

- Eric Gamalinda ([meg2109@columbia.edu](mailto:meg2109@columbia.edu))
- Ed Morales ([em2711@columbia.edu](mailto:em2711@columbia.edu))
- Elizabeth Ouyang ([eo2001@columbia.edu](mailto:eo2001@columbia.edu))
- Jessica Lee ([jhl2152@columbia.edu](mailto:jhl2152@columbia.edu))
- Brian Luna Lucero ([bal35@columbia.edu](mailto:bal35@columbia.edu))

## UNDERGRADUATE PROGRAMS OF STUDY

The Ethnicity and Race Studies major and concentration encompass a variety of fields and interdisciplinary approaches to the critical study of ethnicity and race.

Faculty and students find this field exciting because it opens up new ways of thinking about two fundamental aspects of human social existence: race and ethnicity. Although various traditional disciplines such as history, sociology, anthropology, and literature offer valuable knowledge on the subject, ethnicity and race studies provides a flexible interdisciplinary and comparative space to bring the insights of various conceptual frameworks and disciplines together in critical dialogue.

Overall, the major introduces students to the study of ethnicity and race and the deep implications of the subject matter for thinking about human bodies, power, identity, culture, social hierarchy, and the formation of political communities. The major encourages students to consider the repercussions of racial and ethnic identifications to local and global politics, and how race and ethnicity relates to gender, sexuality, and social class, among other forms of hierarchical difference.

Students majoring in ethnicity and race studies may focus their work on specific groups, including Asian Americans, Latinos, and Native Americans, and/or concentrate on the comparative study of how race and ethnic categories are formed and how they transform. Students also have the option of designing an individualized course of study. Individualized courses of study may encompass a wide variety of themes. Among the most studied are those involving the relationship between race, ethnicity and law; health; human rights; urban spaces; cultural production; visual culture; and the environment.

Due to its rigorous curriculum, which trains students in theory, history, and a wide range of modes of inquiry, the major enables a student to follow multiple directions after graduation. According to our internal surveys, nearly half of CSER students continue to graduate programs in history, anthropology, and ethnic studies, among other areas. A

second group of students pursues a variety of professions, most notably related to law, medicine, media, social work, government, and human rights.

# MAJOR IN ETHNICITY AND RACE STUDIES

*The requirements for this program were modified on March 2022. Students who declared this program before this date should contact the director of undergraduate studies for the department in order to confirm their correct course of study.*

The major in ethnicity and race studies consists of a minimum of 27 points. All majors are required to take three core courses as listed below:

Core Courses		Points
1.		
CSER UN1010	INTRO TO COMP ETHNIC STUDIES (or)	4.00
2.		
CSER UN3928	COLONIZATION/ DECOLONIZATION	4.00
OR		
CSER UN3942	RACE AND RACISMS	4.00
3.		
CSER UN3919	MODES OF INQUIRY	4.00

## Specialization

All majors will select one of the areas of specialization listed below from which to complete their remaining coursework:

Asian American studies
Comparative ethnic studies
Latino/a studies
Native American/Indigenous studies
Individualized courses of study

Majors who elect NOT to follow the Honors track must complete at least five CSER elective courses, in consultation with their major adviser, within their area of specialization. At least one of these electives must be a writing-intensive seminar (3000 or above level courses must be chosen within the department). Majors who elect to follow the Honors track must complete at least four CSER elective courses, in consultation with their major adviser, within their area of specialization.

## Honors

In lieu of a fifth elective, Honors majors are required to enroll in the following course in the spring semester of their senior year, during which they are required to write a thesis:

CSER UN3990	SENIOR PROJECT SEMINAR	4
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Honors majors are required to present their senior essays at the annual undergraduate symposium in April. Students may fulfill this option in one of the following two ways:

1. By matriculating in the Senior Thesis course and writing the thesis under the supervision of the course faculty.
2. By taking an additional 4-point seminar where a major paper is required and further developing the paper into a thesis length work (minimum of 30 pages) under the supervision of a CSER faculty member.

## Language Courses

- One of the following is highly recommended, although not required for the major:

- One course beyond the intermediate-level in language pertinent to the student's focus
- An introductory course in a language other than that used to fulfill the degree requirements, but that is pertinent to the student's focus
- A linguistics or other course that critically engages language
- An outside language and study abroad programs that include an emphasis on language acquisition

# FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

## Concentration in Ethnicity and Race Studies

*The requirements for this program were modified on March 2022. Students who declared this program before this date should contact the director of undergraduate studies for the department in order to confirm their correct course of study.*

The concentration in ethnicity and race studies requires a minimum of 19 points. Students take two core courses (may choose between CSER UN1010 and CSER UN1040) and four elective courses, one of which must be a seminar:

		Points
<b>Core Courses</b>		
The concentration in ethnicity and race studies requires a minimum of 19 points. All students who choose a concentration are required to take two core course as listed below:		
1.		
CSER UN1010	INTRO TO COMP ETHNIC STUDIES (or)	4
2.		
CSER UN3928	COLONIZATION/ DECOLONIZATION	4
OR		
CSER UN3942	RACE AND RACISMS	4
<b>Specialization</b>		

Students must complete at least four courses, in consultation with their major adviser, in one of the following areas of specialization. At least one of the elective courses must be a seminar.

Asian American studies

Comparative ethnic studies

Latino/a studies

Native American/Indigenous studies

Individualized courses of study

## EVOLUTIONARY BIOLOGY OF THE HUMAN SPECIES ECOLOGY, EVOLUTION & ENVIRONMENTAL BIOLOGY :

Department website: <http://www.e3b.columbia.edu>

Office location: 1014 Schermerhorn Ext

Office contact: [e3badmin@columbia.edu](mailto:e3badmin@columbia.edu)

Director of Undergraduate Studies: Dr. Matthew Palmer,  
1010 Schermerhorn; [mp2434@columbia.edu](mailto:mp2434@columbia.edu)

Evolutionary Biology of the Human Species Advisor:  
Dr. Jill Shapiro, 1011 Schermerhorn Extension;  
[jss19@columbia.edu](mailto:jss19@columbia.edu)

Director, Administration and Finance: Kyle Bukhari, 1014B  
Schermerhorn Extension; [kb2337@columbia.edu](mailto:kb2337@columbia.edu)

## THE STUDY OF ECOLOGY, EVOLUTION & ENVIRONMENTAL BIOLOGY

The Department of Ecology, Evolution & Environmental Biology (E3B) at Columbia University was established in 2001. Although we are a relatively new department, we have grown rapidly in the past decade. We now have an internationally diverse student body and a broad network of supporters at Columbia and throughout New York City. Our affiliated faculty members come from departments at Columbia as well as from the American Museum of Natural History, the New York Botanical Garden, the Wildlife Conservation Society, and the EcoHealth Alliance. Together, we provide an unparalleled breadth and depth of research opportunities for our students.

In creating E3B, Columbia University recognized that the fields of ecology, evolutionary biology, and environmental biology constitute a distinct subdivision of the biological sciences with its own set of intellectual foci, theoretical foundations, scales of analysis, and methodologies.

E3B's mission is to educate a new generation of scientists and practitioners in the theory and methods of ecology, evolution, and environmental biology. Our educational programs emphasize a multi-disciplinary perspective to understand life on Earth from the level of organisms to global processes that sustain humanity and all life.

To achieve this multi-disciplinary perspective, the department maintains close ties to over 70 faculty members beyond its central core. Thus, many faculty members who teach, advise, and train students in research are based in other departments on the Columbia campus or at the partner institutions. Through this collaboration, the department is able to tap into a broad array of scientific and intellectual resources in the greater New York City area. The academic staff covers the areas of plant and animal systematics; evolutionary and population genetics; ecosystem science; demography and population biology; behavioral and community ecology; and related fields of epidemiology, ethnobiology, public health, and environmental policy. Harnessing the expertise of this diverse faculty and the institutions of which they are a part, E3B covers a vast area of inquiry into the evolutionary, genetic, and ecological relationships among all living things.

## STUDENT ADVISING

DUS for Environmental Biology--Matthew  
Palmer [mp2434@columbia.edu](mailto:mp2434@columbia.edu)

DUS for Evolutionary Biology of the Human Species--Jill  
Shapiro [jss19@columbia.edu](mailto:jss19@columbia.edu)

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Information to be added

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

Information to be added

## DEPARTMENT HONORS AND PRIZES

Information to be added

## OTHER IMPORTANT INFORMATION PROFESSORS

Marina Cords (also Anthropology)

Ruth DeFries (also Climate School)

Maria Diuk-Wasser

Kevin Griffin (also Earth and Environmental Sciences)

Shahid Naeem

Dustin Rubenstein  
María Uriarte

## ASSOCIATE PROFESSORS

Duncan Menge

## ASSISTANT PROFESSORS

Andrés Bendesky  
Deren Eaton

## LECTURERS

Bekka Brodie  
Matthew Palmer  
Jill Shapiro

## ADJUNCT FACULTY/RESEARCH SCIENTISTS

### Columbia University

Hilary Callahan (Barnard Biology)  
Steven Cohen (SIPA)  
Lisa Dale  
Adela Gondek (SIPA)  
Paul Hertz (Barnard)  
Darcy Kelley (Biology)  
Allison Lopatkin (Barnard Biology)  
Alba Morales-Jimenez  
Brian Morton (Barnard Biology)  
Paul Olsen (Lamont-Doherty)  
Dorothy Peteet (Lamont-Doherty)  
Miguel Pinedo Vasquez  
Alison Pischedda (Barnard Biology)  
Robert Pollack  
Marya Pollack  
Paige West (Barnard)  
Natalie Boelman (Lamont-Doherty)

### American Museum of Natural History

Felicity Arengo  
Mary Blair  
Frank Burbrink  
Joel Cracraft  
Suzanne Macey  
Anna MacPherson  
Christopher Raxworthy  
Robert Rockwell  
Nancy Simmons  
Brian Smith  
Jessica Ware

### The New York Botanical Garden

Alex McAlvay  
Michael Balick  
Dennis Stevenson

## Wildlife Conservation Society

Howard Rosenbaum  
Scott Silver  
Patrick R. Thomas

## Ecohealth Alliance

Peter Daszak  
Kevin Olival  
Mindy Rostal

## Others

Rachel Cox (Riverdale Country School)  
Winslow Hansen (Cary Institute)  
Sara Kross (University of Canterbury)  
Chad Seewagen (Great Hollow)  
Eleanor Sterling (Hawai'i Institute of Marine Biology)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

Program Planning for all Students  
Course Numbering Structure  
Guidance for First-Year Students  
Guidance for Transfer Students

## UNDERGRADUATE PROGRAMS OF STUDY

The grade of D is not accepted for any course offered in fulfillment of the requirements toward the majors or concentrations.

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### Major in Environmental Biology

The major in environmental biology requires 50 points, distributed as follows:

#### Lower Division Courses

Two terms of introductory or environmental biology such as the following:

EEEB UN2001 & EEEB UN2002	ENVIRONMENTAL BIOLOGY I and ENVIRONMENTAL BIOLOGY II
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Two terms of environmental science such as the following:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
Two terms of chemistry such as the following:	
CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
One term of physics such as the following:	
PHYS UN1201	GENERAL PHYSICS I
One term of statistics such as the following:	
EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
BIOL BC2286	STATISTICS # RESEARCH DESIGN
STAT UN1101	INTRODUCTION TO STATISTICS
STAT UN1201	CALC-BASED INTRO TO STATISTICS
One term of calculus such as the following:	
MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II
MATH UN1201	CALCULUS III
MATH UN1202	CALCULUS IV

### Upper Division Courses

Students must complete five advanced elective courses (generally 3000-level or above) satisfying the following distribution. At least one of these courses must include a laboratory component. For more information and a list of appropriate courses, contact the director of undergraduate studies.

1. Ecology, behavior, or conservation biology;
2. Evolution or genetics;
3. Morphology, physiology, or diversity;
4. Policy or economics;
5. One additional course from the preceding four groups.

Students must also complete a senior thesis, which involves completing a research internship (generally in the summer before the senior year) and completing at least one semester of the thesis research seminar, EEEB UN3991-EEEB UN3992 THESIS RESEARCH SEMINAR. Enrollment in both semesters of the seminar, starting in the spring of the junior year, is recommended.

Students planning on continuing into graduate studies in environmental biology or related fields are encouraged to take organic chemistry and genetics.

## Ecology and Evolution Track within the Environmental Biology Major

The ecology and evolution track within the environmental biology major requires 50 points, distributed as follows:

### Lower Division Courses

Two terms of introductory or environmental biology such as the following:

EEEB UN2001 & EEEB UN2002	ENVIRONMENTAL BIOLOGY I and ENVIRONMENTAL BIOLOGY II
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Two terms of chemistry such as the following:

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
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Chemistry laboratory such as the following:

CHEM UN1500	GENERAL CHEMISTRY LABORATORY
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Two terms of physics such as the following:

PHYS UN1201 & PHYS UN1202	GENERAL PHYSICS I and GENERAL PHYSICS II
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One term of statistics such as the following:

EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
BIOL BC2286	STATISTICS # RESEARCH DESIGN

STAT UN1101	INTRODUCTION TO STATISTICS
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STAT UN1201	CALC-BASED INTRO TO STATISTICS
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Two terms of calculus, or one term of calculus and second advanced course in math or statistics such as the following:

MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II
MATH UN1201	CALCULUS III
MATH UN1202	CALCULUS IV

### Upper Division Courses

Students must complete five advanced elective courses (generally 3000-level or above) satisfying the following distribution. At least one of these courses must include a laboratory component. For more information and a list of appropriate courses, contact the director of undergraduate studies.

1. Three courses in ecology, evolution, conservation biology, or behavior;
2. One course in genetics. BIOL UN3031 GENETICS or BIOL BC2100 MOLECULAR # MENDELIAN GENETICS is recommended;
3. One course in morphology, physiology, or diversity.



Students must also complete a senior thesis, which involves completing a research internship (generally in the summer before the senior year) and completing at least one semester of the thesis research seminar, EEEB UN3991-EEEE UN3992 THESIS RESEARCH SEMINAR. Enrollment in both semesters of the seminar, starting in the spring of the junior year, is recommended.

Students planning on continuing into graduate studies in ecology or evolutionary biology are encouraged to take organic chemistry.

## Major in Evolutionary Biology of the Human Species

The major in evolutionary biology of the human species requires 36 points, distributed as described below.

Students must take a minimum of 20 points from approved biological anthropology courses. The additional courses may be taken in other departments with adviser approval. These include up to 6 points of introductory biology/chemistry or calculus (in any combination). Please speak with the major adviser about the extended list of courses from related areas including Biology, Psychology, Archaeology, Anthropology, Earth and Environmental Science, and Statistics that count toward this program.

For example, students interested in focusing on paleoanthropology would complement the requirements with additional courses in human evolution and morphology, evolutionary biology and theory, archaeology, genetics, and statistics. Those interested in primate behavior would supplement the requirements with classes in behavioral biology, ecology, and statistics.

### Required Courses

EEEE UN1010	HUMAN ORIGINS # EVOLUTION
EEEE UN1011	BEHAVIOR BIOL-LIVING PRIMATES

**\*\*Alternate options may be possible for all courses other than EEEB UN1010 HUMAN ORIGINS # EVOLUTION and EEEB UN1011 BEHAVIOR BIOL-LIVING PRIMATES. These will be considered on an individual basis in consultation with the major/concentration adviser.**

### Conservation Course

EEEE UN3240	Challenges and Strategies of Primate Conservation (This is the recommended conservation course but this requirement can be fulfilled with other classes such as Conservation Biology, Zoo Conservation, Ecology, Behavior and Conservation of Mammals, SEE-U in Jordan or Brazil, or other relevant offerings.)
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### Theoretical Foundation from Archaeology

Select one course of the following: Nearly all archaeology courses (save for Rise of Civilization) can fulfill this requirement. Check with the advisor.

#### Archaeology

ANTH UN1007	THE ORIGINS OF HUMAN SOCIETY
ANTH UN2028	THINK LIKE AN ARCHAEOLOGIST
ANTH UN2031	Corpse Life: Anthropological Histories of the Dead [Previously Archaeologies of Death and
ANTH UN3823	ARCH ENGAGE: PAST IN PUB EYE

### Breadth Requirement

Select a minimum of one course from each of the three sections (may overlap seminar requirement for majors): As noted above, this is a partial listing. There are additional options for all of the categories that follow. They will be considered on an individual basis in consultation with the major/concentration adviser.

#### Human Variation/Adaptation/Genetics

EEEE UN3970	Biol Basis Of Human Variation
EEEE GU4340	HUMAN ADAPTATION
EEEE GU4700	RACE:TANGLED HIST-BIOL CONCEPT
BIOL BC2100	MOLECULAR # MENDELIAN GENETICS
BIOL GU4560	EVOL IN THE AGE OF GENOMICS

#### Primate Behavioral Biology and Ecology

EEEE UN3940	Current Controversies in Primate Behavior and Ecology
EEEE GU4015	ANIMAL COMMUN:PRIMATE PERSP
EEEE GU4134	Behavioral Ecology
EEEE GU4201	ECO, BEHAVIOR # CONSERVATION OF MAMMALS (can count for either breadth requirement or conservation requirement, but not both)

EEEB GU4350	PRIMATE SEXUALITY
EEEB GU4370	Parenting Like A Primate: The Evolution of Parental Care
BIOL BC2272	ECOLOGY
BIOL BC2280	ANIMAL BEHAVIOR
PSYC BC1119	Systems and Behavioral Neuroscience
PSYC UN2420	ANIMAL BEHAVIOR
PSYC UN2450	BEHAVIORAL NEUROSCIENCE
PSYC S2490	EVOLUTIONARY PSYCHOLOGY
PSYC BC3372	Comparative Cognition
PSYC UN3450	Evolution of Intelligence, Animal Communication, # Language
PSYC GU4242	Evolution of Language (seminar)
PSYC GU4250	Evolution of Intelligence, Cognition, and Language (Seminar)

#### **Human Evolution/Morphology**

EEEB UN3204	Dynamics of Human Evolution
EEEB UN3208	EXPLORATIONS IN PRIM ANATOMY
EEEB UN3215	FORENSIC OSTEOLOGY
EEEB UN3220	THE EVOL OF HUM GROWTH # DEVPT
EEEB UN3910	THE NEANDERTALS
EEEB UN3998	INDEPENDENT STUDY
EEEB GU4200	Introduction to Mammalogy
ANAT BC2573	HUMAN ANATOMY AND MOVEMENT
BIOL BC2278	EVOLUTION
BIOL UN3006	PHYSIOLOGY
BIOL UN3208	Introduction to Evolutionary Biology
BIOL UN3019	Brain Evolution
BIOL BC3360	PHYSIOLOGY

#### **Seminar**

Selection at least one of the following seminars. May also count toward the breadth requirement.

EEEB UN3204	Dynamics of Human Evolution
EEEB UN3910	THE NEANDERTALS
EEEB UN3940	Current Controversies in Primate Behavior and Ecology
EEEB UN3970 Biol Basis Of Human Variation	
EEEB UN3993 & EEBB UN3994	EBHS SENIOR THESIS SEMINAR and EBHS SENIOR THESIS SEMINAR

Additional courses in the student's area of focus to complete the required 36 points overall including a minimum of 20 points of approved biological anthropology courses.

Students intending to pursue graduate study in this field should broaden their foundation by taking an introductory biology course (optimally either EEBB UN2001 ENVIRONMENTAL BIOLOGY I or EEBB UN2002 ENVIRONMENTAL BIOLOGY II) or an advanced evolution course, a genetics course, and a statistics course.

We recommend that those interested in either biological anthropology or bioarchaeology take a foundation cultural anthropology course such as ANTH UN1002 THE INTERPRETATION OF CULTURE, ANTH UN2004 INTRO TO SOC # CULTURAL THEORY, ANTH UN2005 THE ETHNOGRAPHIC IMAGINATION, or ANTH UN3040 ANTHROPOLOGICAL THEORY.

Students interested in forensic anthropology should take chemistry in lieu of biology (though the latter is recommended as a foundation course for all students). The adviser makes additional recommendations dependent on the student's area of focus.

#### **Approved Biological Anthropology Courses**

##### **Paleoanthropology and Morphology**

EEEB UN1010	HUMAN ORIGINS # EVOLUTION
EEEB UN3204	Dynamics of Human Evolution
EEEB UN3208	EXPLORATIONS IN PRIM ANATOMY
EEEB UN3215	FORENSIC OSTEOLOGY
EEEB UN3220	THE EVOL OF HUM GROWTH # DEVPT
EEEB UN3910	THE NEANDERTALS
EEEB UN3998	INDEPENDENT STUDY

##### **Primate Behavioral Ecology and Evolution**

EEEB UN1011	BEHAVIOR BIOL-LIVING PRIMATES
EEEB UN3940	Current Controversies in Primate Behavior and Ecology
EEEB GU4015	ANIMAL COMMUN:PRIMATE PERSP
EEEB GU4350	PRIMATE SEXUALITY
EEEB GU4370	Parenting Like A Primate: The Evolution of Parental Care

##### **Human Variation**

EEEB UN3970 Biol Basis Of Human Variation	
EEEB GU4340	HUMAN ADAPTATION
EEEB GU4700	RACE:TANGLED HIST-BIOL CONCEPT

##### **Additional Courses**

EEEB UN3240	Challenges and Strategies of Primate Conservation
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EEEB UN3993  
& EEEB UN3994

EBHS SENIOR THESIS  
SEMINAR  
and EBHS SENIOR THESIS  
SEMINAR

## MINOR IN ECOLOGY, EVOLUTION, AND ENVIRONMENTAL BIOLOGY

Beginning in fall 2024 E3B is pleased to announce a new minor in Ecology, Evolution, and Environmental Biology. This minor provides both grounding in the intellectual pillars of the department while affording students the option to explore the broad scope of biodiversity, ecosystems, and environmental and evolutionary biology. Students may also delve into specific subfields such as conservation biology, botany, behavioral biology and ecology, ecosystem ecology, primatology, or human evolution. No previous biology background is required. Ideally, students will take one course by the end of their second year to see if the program is of interest, but juniors and even seniors who develop a curiosity in the subject may complete the minor without difficulty.

Advising: Contact the Directors of Undergraduate Programs. [Matt Palmer mp2434@columbia.edu](mailto:Matt.Palmer@columbia.edu) ([mp2434@columbia.edu](mailto:mp2434@columbia.edu)) advises students who have a broad organismal/ecosystem focus corresponding to interests in the EB program; [Jill Shapiro jss19@columbia.edu](mailto:Jill.Shapiro@columbia.edu) advises students with a focus on human and non-human primate evolutionary biology and behavior, corresponding to the EBHS program. In addition to the program advisors, guidance as to offerings and a complete list of courses including prerequisites is available on the E3B website.

### REQUIRED COURSES

Minors must take one of the following four introductory courses and any other four 3-4 points E3B courses (this includes the other introductory classes).

EEEB UN2001 Environmental Biology 1 (offered every fall)

EEEB UN2002 Environmental Biology 2 (offered every spring)

EEEB UN1010 Human Origins and Evolution (offered every fall)

EEEB UN1011 Behavioral Biology of Living Primates (offered every spring)

The four introductory offerings are “gateway” classes. We recommend that students interested broadly in organismal biology/environmental biology take either Environmental Biology 1 or 2, or both. Those with a focus on human and non-human primate evolutionary biology and behavior should take either Human Origins and Evolution or

Behavioral Biology of Living Primates. This will maximize the number of upper-level courses that would be open but there is still considerable flexibility. There are a small number of classes without any prerequisites and students with foundational biology courses from either Columbia or Barnard Biology may fulfill some class prerequisites\*.

Advisors will provide guidance as to offerings and a complete list of courses including prerequisites is available on the E3B website.

\*BIOL2005/2006 and Barnard BIO BC1501 are similar to EEEB2001 (Environmental Biology 1) and may substitute this for courses requiring the latter as a prerequisite, but must take five other courses in E3B. Since the BIOL sequence does not include evolution (in contrast to EB1) we highly recommend that they take Environmental Biology 2 or one of the other foundation courses. Barnard BIO BC1500 is similar to Environmental Biology 2 and so students who have completed this can count it as having satisfied the introductory course requirement, and so can take any five courses in E3B to complete the minor.

### COURSE OPTIONS

UN3001 Saga of Life

UN3005 Intro Statistics Ecology and Evolutionary Biology

UN3087 Conservation Biology

UN3204 Dynamics of Human Evolution

UN3208 Explorations Primate Anatomy

UN3215 Forensic Osteology

UN3220 Evolution of Human Growth and Evolution

UN3240 Primate Conservation

UN3910 The Neandertals

UN3940 Current Controversies in Primate Behavior

UN3970 Biological Basis of Human Variation

UN3919 Trading Nature

UN3997 Independent Study

UN3998.002 Group Independent Study in Postcranial Osteology

GU4015 Animal Communication: A Primate Perspective

GU4050 Programming and Data Science Skills

GU4055 Principles and Applications in Modern DNA Sequencing

GU4065 Tropical Biology (Winter Break Course in Kenya)

GU4086 Ethnobotany

GU4100 Forest Ecology

GU4105 Intermediate Statistics for Ecology and Evolution

GU4111 Ecosystem Ecology and Global Change

GU4112 Ichthyology

GU4126 Conservation Genetics

GU4127 Disease Ecology

GU4129 Zoo Conservation

GU4134 Behavioral Ecology

GU4135 Urban Ecology and Design

GU4140 Ornithology

GU4150 Theoretical Ecology

GU4160 Landscape Ecology

GU4192 Introduction to Landscape Analysis

GU4195 Marine Conservation

GU4200 Introduction to Mammalogy

GU4201 Ecology, Behavior and Conservation of Mammals

GU4210 Herpetology

GU4340 Human Adaptation

GU4350 Primate Sexuality

GU4370 Parenting Like a Primate: the Evolution of Parental Care

GU4550 Plant Ecophysiology

GU4605 Human-Wildlife Conflict

GU4650 Biodiversity and Ecosystem Processes

GU4666 Insect Diversity

GU4670 Introduction to GIS

GU4700 Race: The Tangled History of a Biological Concept

GU4910 Field Botany and Plant Systematics

Summer Only:

S1001 Biodiversity

S1115 The Life Aquatic

S3015 Animal Behavior Through Fieldwork

With advisor approval, students may take a maximum of two courses from a limited set taught by affiliates in other departments. For example: DEES GU4560 The Ecology of Tree line in a Changing Climate; BIOL-BC2240 Plant

Evolution and Diversity; BIOL/ANAT BC2574-Laboratory in Human Anatomy; BIOL-BC2272 Ecology; and BIOL BC-3380-Applied Ecology and Evolution.

Examples of focused programs (e.g., biodiversity, botany, conservation, ecology, evolutionary biology, human evolution & morphology, primatology, zoology, etc., available on the E3B Department website <https://e3b.columbia.edu/>

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Environmental Biology

The concentration in environmental biology differs from the major in omitting calculus and physics from the lower division, requiring three advanced electives rather than five, and omitting the senior seminar with thesis project. It requires 36 points, distributed as follows:

#### Lower Division Courses

Two terms of introductory or environmental biology such as the following:

EEEB UN2001 & EEBB UN2002	ENVIRONMENTAL BIOLOGY I and ENVIRONMENTAL BIOLOGY II (or equivalents)
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Two terms of environmental science such as the following:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH

Two terms of chemistry such as the following:

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I-LECTURES and GENERAL CHEMISTRY II-LECTURES
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One term of statistics. Select one of the following:

EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
BIOL BC2286	STATISTICS # RESEARCH DESIGN
STAT UN1101	INTRODUCTION TO STATISTICS
STAT UN1201	CALC-BASED INTRO TO STATISTICS

#### Upper Division Courses

EEEB UN3087	CONSERVATION BIOLOGY
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Two other 3000- or 4000- level courses from the advanced environmental biology courses listed for the major.

## Concentration in Evolutionary Biology of the Human Species

The concentration in evolutionary biology of the human species requires 20 points including the required introductory courses EEEB UN1010 HUMAN ORIGINS # EVOLUTION, EEEB UN1011 BEHAVIOR BIOL-LIVING PRIMATES, an approved conservation course (optimally Primate Conservation), and three courses for the breadth distribution requirements as described for the major. Students must take a minimum of 15 points from approved biological anthropology courses as described for the major (the two introductory classes count toward that total). The additional courses may be taken in other departments with adviser approval.

Concentrators do not have to complete the theoretical foundation course from archaeology or a seminar.

## Special Concentration in Environmental Science for Environmental Biology Majors

The special concentration in environmental science requires a minimum of 31.5 points, distributed as follows:

### Introductory Environmental Science (13.5 points)

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST (equivalent to EEEB UN2002)

### Introductory Science (6 points)

Two courses in chemistry, physics, mathematics, or environmental biology from the supporting mathematics and science list for the environmental science major.

### Advanced Environmental Science (12 points)

Select four of the following:

EESC UN3015	The Earth's Carbon Cycle
EESC BC3017	ENVIRONMENTAL DATA ANALYSIS
EESC BC3025	HYDROLOGY
EESC GU4008	Introduction to Atmospheric Science
EESC GU4050	GLOBAL ASSMT-REMOTE SENSING
EESC GU4223	SEDIMENTARY GEOLOGY
EESC GU4550	Plant Ecophysiology

EESC GU4835	Wetlands and Climate Change
EESC GU4885	CHEMISTRY OF CONTINENTAL WATERS
EESC GU4917	THE EARTH/HUMAN INTERACTIONS
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY

Advanced courses used to fulfill requirements in the environmental biology major cannot count toward requirements for the special concentration.

## Special Concentration in Environmental Biology for Environmental Science Majors

The Department of Ecology, Evolution, and Environmental Biology sponsors a special concentration which must be done in conjunction with the environmental science major. Students should be aware that they must complete the environmental science major in order to receive credit for the special concentration.

The special concentration in environmental biology requires a minimum of 39 points, distributed as follows:

### Introductory Environmental Biology and Environmental Science (17 points)

EEEB UN2001	ENVIRONMENTAL BIOLOGY I
EEEB UN2002	ENVIRONMENTAL BIOLOGY II (equivalent to EESC UN2300)
EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH

### Introductory Science (13 points)

Select one of the following chemistry sequences:

CHEM UN1403 & CHEM UN1404	GENERAL CHEMISTRY I- LECTURES and GENERAL CHEMISTRY II-LECTURES
CHEM UN1604 & CHEM UN2507	2ND TERM GEN CHEM (INTENSIVE) and Intensive General Chemistry Laboratory

One term of statistics such as the following:

EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
BIOL BC2286	STATISTICS # RESEARCH DESIGN
STAT UN1101	INTRODUCTION TO STATISTICS



STAT UN1201	CALC-BASED INTRO TO STATISTICS
EEEB UN3087	CONSERVATION BIOLOGY

### **Advanced Environmental Biology (9 points)**

Three additional advanced environmental biology courses (3000-level and above), each chosen from a different curricular area (evolution/genetics, ecology/behavior/conservation, anatomy/physiology/diversity, biology laboratory courses).

## FILM AND MEDIA STUDIES

### THE FILM AND MEDIA STUDIES DEPARTMENT:

Department website: <https://arts.columbia.edu/film/undergraduate>

Office location: 513 Dodge Hall

Office contact: 212-854-2815/ [Film@columbia.edu](mailto:Film@columbia.edu)

Director of Undergraduate Studies: Prof. Robert King, [rk2704@columbia.edu](mailto:rk2704@columbia.edu) (Spring 2025), Prof. Annette Insdorf, [ai3@columbia.edu](mailto:ai3@columbia.edu) (Fall 2024)

Departmental Administrators:

Hanna Seifu, Director of Academic Administration, [hes2130@columbia.edu](mailto:hes2130@columbia.edu) Sarah Adriance, Assistant Director of Academic Administration, [sja2175@columbia.edu](mailto:sja2175@columbia.edu)

### THE STUDY OF FILM

The major in film studies is scholarly, international in scope, and writing-intensive. Students choose to major in film if they want to learn more about the art form, from technology to cultural significance; want to work in the film industry; or are interested in a major that combines arts and humanities.

Students usually declare the major toward the end of the second year by meeting with the departmental adviser; together, they create a program of twelve required courses within the major, often supplemented by courses outside the department. In the lecture classes and seminars, there tends to be a mixed population of undergraduate majors and graduate film students.

Students have the opportunity to gain additional experience by taking advantage of internship opportunities with film companies, working on graduate student films, and participating in the Columbia Undergraduate Film Productions (CUFP), an active, student-run organization that provides film-making experience to Columbia undergraduate producers and directors. In addition to careers in screenwriting, directing, and producing, alumni have

gone on to work in film distribution, publicity, archives, and festivals, and to attend graduate school to become teachers and scholars.

The trajectory of the major is from introductory-level courses (three are required), to intermediate and advanced-level courses (two are required, plus seven electives). While film studies majors take workshops in screenwriting and film-making, the course of study is rooted in film history, theory, and culture.

The prerequisite for all classes is INTRO TO FILM # MEDIA STUDIES (FILM UN1000) offered each term at Columbia as well as at Barnard, and open to first-year students. Subsequently, majors take a combination of history survey courses; workshops ("Labs"); and advanced classes in theory, genre study, national cinemas, auteur study, and screenwriting.

The educational goal is to provide film majors with a solid grounding in the history and theory of film; its relation to other forms of art; and its synthesis of visual storytelling, technology, economics, and sociopolitical context, as well as the means to begin writing a script and making a short film.

Students who wish to graduate with honors must take the SENIOR SEMINAR IN FILM STUDIES (FILM UN3900), writing a thesis that reflects mastery of cinematic criticism. The essay is submitted after the winter break. Students decide upon the topic with the professor and develop the essay during the fall semester.

Since film courses tend to be popular, it is imperative that students attend the first class. Registration priority is usually given to film majors and seniors.

### STUDENT ADVISING

Contact the Director of Undergraduate Studies

### COURSEWORK TAKEN OUTSIDE OF COLUMBIA

#### Barnard College Courses

Contact the Director of Undergraduate Studies

#### Transfer Courses

Contact the Director of Undergraduate Studies

#### Summer Courses

Contact the Director of Undergraduate Studies

# UNDERGRADUATE RESEARCH AND SENIOR THESIS DEPARTMENT HONORS AND PRIZES

## Department Honors

In order to qualify for departmental honors, students must have a GPA of 3.75 in the major and distinction in their overall achievements in film study. Students who take FILM UN3900 Senior Seminar in Film Studies automatically enter consideration for honors; however, the class is not a requirement for honors.

## Academic Prizes

The Pat Anderson Prize in Film Reviewing is named for the film critic who died in 2011. For many decades, she was part of New York’s movie community – writing about motion pictures for “Films in Review” – and a vital member of the National Board of Review from the 1970s until 2009.

The Guy Gallo Memorial Award in Screenwriting is in memory of adjunct professor Guy Gallo, who taught screenwriting at Columbia and Barnard for over twenty-five years. He is best known for writing the screenplay of Under the Volcano, which John Huston directed in the early 1980s.

The Andrew Sarris Memorial Award for Film Criticism is an annual award in honor of the celebrated Columbia film professor who died in 2012. The influential critic behind the “auteur theory,” Sarris was the author of some of the most celebrated essays and books on American film, including his landmark study, The American Cinema: Directors and Directions, 1929-1968.

## FACULTY

Nico Baumbach  
Loren-Paul Caplin  
Jane Gaines  
Behrang Garakani  
Racquel Gates  
Ronald Gregg  
Annette Insdorf  
Caryn James  
Robert King  
Anastasia Kostina  
Jason LaRiviere  
Dennis Lim  
Richard Peña  
James Schamus  
Elizabeth Ramirez Soto

# GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

## Program Planning for all Students

## Course Numbering Structure

## Guidance for First-Year Students

## Guidance for Transfer Students

Contact the Director of Undergraduate Studies

# UNDERGRADUATE PROGRAMS OF STUDY

## Major in Film & Media Studies

The major in film studies requires a minimum of 36 points distributed as follows:

### Introductory Courses

FILM UN1000	INTRO TO FILM # MEDIA STUDIES (The summer class Introduction to the Study and Theory of Film also satisfies this requirement.)
FILM GU4000	FILM AND MEDIA THEORY (This is an advanced class that students are recommended to take in their junior year. It is only offered in the Fall.)

### Cinema History Courses

Select two of the following courses, one of which must either be FILM UN2010 or FILM UN2020:

FILM UN2010	CINEMA HIST I: BEGIN-1930
FILM UN2020	CINEMA HIST II: 1930-1960
FILM UN2030	CINEMA HIST III:1960-1990
FILM UN2040	CINEMA HISTORY IV: AFTER 1990

### Laboratories

Select one of the following courses:

FILM UN2410	LAB IN WRITING FILM CRITICISM
FILM UN2510	LAB IN FICTION FILMMAKING
FILM UN2420	LABORATORY IN SCREENWRITING
FILM UN2520	LAB IN NONFICTION FILMMAKING

### Electives

Students take seven elective classes of their choosing. Electives commonly offered at Columbia include, but are not limited to, the following:

FILM UN2130	American Film: Comedy
-------------	-----------------------

FILM UN2132	American Film: Cult # Exploitation
FILM UN2134	American Film: The Western
FILM UN2136	American Film: Film Noir
FILM UN2290	Topics in World Cinema: Arab and Africa
FILM UN2292	Topics in World Cinema: China
FILM UN2294	WORLD CINEMA: LATIN AMERICA
FILM UN2310	THE DOCUMENTARY TRADITION
FILM UN3010	AUTEUR STUDY
FILM UN3013	Auteur Studies: Chantal Akerman's Cinema, Writing and Moving Images
FILM UN3900	SENIOR SEMINAR IN FILM STUDIES
FILM UN3910	Senior Seminar in Filmmaking
FILM UN3920	SENIOR SEM IN SCREENWRITING
FILM UN3925	NARRATIVE STRAT-SCREENWRITING
FILM UN3950	SEMINAR IN MEDIA: SERIALITY
FILM GU4020	Brazilian Cinema: Cinema Novo and Beyond
FILM GU4294	World Cinema: Latin America
FILM GU4320	New Directions in Film and Philosophy
FILM GU4300	Black Film and Media
FILM GU4310	EXPERIMENTAL FILM # MEDIA
FILM GU4910	Seeing Narrative
FILM GU4940	QUEER CINEMA
FILM GU4953	Reality Television

### Notes:

- Outside of the required classes, most undergraduate courses offered through the Columbia or Barnard Film and Media Studies majors will count as an elective, including summer classes. Please confirm with the Director of Undergraduate Studies.
- Film- or media-related classes from other departments can count as electives only with prior DUS approval.
- There is a cap of FOUR classes in screenwriting or filmmaking that can be applied toward the major.
- Cinema History or Lab classes taken in excess of the above requirements roll over as electives (e.g., if you take two labs, one will count as one of your seven electives).

## Minor in Film & Media Studies

The minor consists of five courses (fifteen credits) as follows:

Intro to Film and Media Studies (FILM UN1000) (3 credits)

Two of the following four courses, one of which must be FILM UN2010 or UN2020:

- o Cinema History I: Beginnings to 1930 (FILM UN2010) (3 credits)
- o Cinema History II: 1930-1960 (FILM UN2020) (3 credits)
- o Cinema History III: 1960-1990 (FILM UN2030) (3 credits)
- o Cinema History IV: After 1990 (FILM UN2040) (3 credits)

Any two electives, one of which can be from the following labs:

- o Lab in Writing Film Criticism (FILM UN2410) (3 credits)
- o Lab in Screenwriting (FILM UN2420) (3 credits)
- o Lab in Fiction Filmmaking (FILM UN2510) (3 credits)
- o Lab in Nonfiction Filmmaking (FILM UN2520) (3 credits)

Some classes are at present not available to minors except with explicit instructor approval, as

follows: Senior Seminar in Film Studies (FILM UN3900); Advanced Film Production Practice

(FILM UN3915); Senior Seminar in Screenwriting (FILM UN3920); Narrative Strategies in

Screenwriting (FILM UN3925).

### Advising and governance

Students who take the minor should begin with Intro to Film and Media Studies, which is open

to all students across the university, no matter their year or major/minor. The Cinema History

classes can also be taken at any time, irrespective of declared major/minor. Lab classes and

seminars will only be available to students who have declared minors in Film and Media Studies

(usually at the end of their sophomore year).

All minors are entitled to one lab class, although they may take a second for their other elective

if space permits. Priority for labs will be organized as follows: 1) majors who have not taken a

lab; 2) minors who have not taken a lab; 3) majors who have already taken one lab; 4) minors

who have already taken one lab.

Students can apply only one study abroad or transfer class programs.  
(3-credit equivalent) to completion

of the minor. This restriction also applies to film-related classes offered in other Columbia

## FINANCIAL ECONOMICS

### ECONOMICS DEPARTMENT:

Department Website: <https://econ.columbia.edu>

Office Location: 1022 International Affairs Building

Office Contact: 212-854-3680, [econ-info@columbia.edu](mailto:econ-info@columbia.edu)

Director of Undergraduate Studies: Dr. Susan Elmes, 1006 International Affairs Building; 212-854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)

Undergraduate Coordinator: Laura Yan, [ly38@columbia.edu](mailto:ly38@columbia.edu)

### THE STUDY OF ECONOMICS

Economics is the study of the ways in which society allocates its scarce resources among alternative uses and the consequences of these decisions. The areas of inquiry deal with a varied range of topics such as international trade, domestic and international financial systems, labor market analysis, and the study of less developed economies. Broadly speaking, the goal of an economics major is to train students to think analytically about social issues and, as such, provide a solid foundation for not only further study and careers in economics, but also for careers in law, public service, business, and related fields.

The Economics Department offers a general economics major in addition to five interdisciplinary majors structured to suit the interests and professional goals of a heterogeneous student body. All of these programs have different specific requirements but share the common structure of core theoretical courses that provide the foundation for higher-level elective courses culminating in a senior seminar. Students are urged to carefully look through the details of each of these programs and to contact an appropriate departmental advisor to discuss their particular interests.

### STUDENT ADVISING

The Department of Economics offers a variety of advising resources to provide prospective and current undergraduate majors and concentrators with the information and support needed to successfully navigate through the program. These resources are described below.

#### Consulting Advisors

For answers to the most common questions that students have about the majors, the department has graduate student advisors, who are available by e-mail at [econ-advising@columbia.edu](mailto:econ-advising@columbia.edu), or during weekly office hours to meet with students.

Students should direct all questions and concerns about any economic program to the graduate student advisors either in person or via e-mail. The graduate student advisors can discuss major requirements, scheduling, and major course selection, as well as review student checklists and discuss progress in the major. Occasionally, graduate student advisors may refer a student to someone else in the department (such as the director of undergraduate studies) or in the student's school for additional advising.

Contact information and office hours for the graduate student advisors are posted on the Advisors page [Advisors page](#) of the departmental website in the week prior to the beginning of the semester. Students considering one of the interdepartmental majors should speak to both a graduate student advisor from the Economics Department and the advisor from the other department early in the sophomore year.

#### Faculty Advisors

Faculty advisors are available only to declared majors. They are able to discuss students' academic and career goals, both in terms of the undergraduate career and post-graduate degrees and research. Students wishing to discuss these types of

substantive topics may request a faculty advisor by completing the google form available on the [Advisors page](#) of the departmental website.

The department does its best to match students with faculty members that share similar academic interests. While faculty advisors do not discuss major requirements—that is the role of the graduate student advisors—they do provide guidance in course selection as it relates to meeting a student's intellectual goals and interests, as well as advise on career and research options. It is recommended that students who plan on attending a Ph.D. program in economics or are interested in pursuing economics research after graduation request a faculty advisor.

## Enrolling in Classes

### Prerequisites

The Department strictly enforces all course prerequisites. Prerequisite courses cannot be taken concurrently with or after the course—they must be taken before the course. Students who take a course out of sequence (before or concurrently with its prerequisites) will not be allowed to count those credits towards the completion of their major, and consequently will be required to take an additional course to replace those credits. For placement in the calculus sequence, please consult the Math department's section of the Bulletin. The list of Prerequisites for Econ courses can be found on the [Course Prerequisites](#) page of the Dept. website.

### Registration for Restricted Classes

Most lecture courses are open to online Registration. However, Seminars, Research Courses, Independent Study and Corporate Finance are restricted. Information regarding Seminar Registration can be found on the [Senior Seminar Registration](#) page. Registration information for Research Course credit, Independent Study and Corporate Finance can be found on the [Registration Information](#) page.

## Preparing for Graduate Study

On the [Preparing for Graduate School](#) page on our website, you will find general advice for students thinking about pursuing a PhD in economics. All students who are considering graduate work should review the material posted there. Since graduate work requires more mathematical and statistical training than the economics major, students interested in graduate work should speak with econ-advising about planning their course schedule.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

AP tests must be taken in both microeconomics and macroeconomics, with a score of 5 on one test and at least a 4 on the other. Provided that this is achieved, the department grants 4 credits for a score of 4 and 5 on the AP Economics exam along with exemption from [ECON UN1105 PRINCIPLES OF ECONOMICS](#).

### IB Credit or GCE A Level Exams

If you took the IB Exam and received either a 6 or a 7 or if you took GCE A Level Exams and received an A or a B, then you will receive credit from the college. Those credits will automatically exempt you from the Principles requirement.

## Barnard College Courses

Barnard Economics Core Courses and seminars do NOT count towards the Columbia Economics Major or concentration. Specifically, the following courses will NOT count toward your major program:

[ECON BC1003](#), [ECON BC1007](#), [ECON BC2411](#), [ECON BC3018](#), [ECON BC3033](#), [ECON BC3035](#).

The Barnard courses listed below will count as Electives toward your Economics Major provided you have completed the course prerequisites, have not taken an equivalent course in the Columbia Department, and have fulfilled the minimum requirement of taking 5 lecture courses in the Columbia Department.

### Economics (Barnard)

ECON BC2010	The Economics of Gender
ECON BC2012	Economic History of Western Europe
ECON BC2017	INTRODUCTION TO HEALTH ECONOMICS



ECON BC2020	Introduction to Development Economics
ECON BC2075	Logic and Limits of Economic Justice
ECON BC2224	CODING MARKETS
ECON BC3010	American Wellbeing
ECON BC3011	INEQUALITY AND POVERTY
ECON BC3012	THE ECONOMICS OF EDUCATION
ECON BC3013	Economic History of the United States
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON BC3019	LABOR ECONOMICS
ECON BC3027	Economics of Inequality
ECON BC3022	Economic History of Europe
ECON BC3023	Topics in Economic History
ECON BC3024	MIGRATION # ECONOMIC CHANGE
ECON BC3026	Economics of the Public Sector
ECON BC3029	EMPIRICAL APPROACHES DEVLPMNT
ECON BC3031	Economics of Life
ECON BC3038	INTERNATIONAL MONEY # FINANCE
ECON BC3039	Environmental and Natural Resource Economics
ECON BC3041	THEORETICL FOUNDTNS-POLIT ECON
ECON BC3045	BUSINESS CYCLES
ECON BC3047	International Trade
ECON BC3049	Economic Evaluation of Social Programs
ECON BC3270	Topics in Money and Finance
ECON UN3025	FINANCIAL ECONOMICS
ECON UN3265	MONEY AND BANKING

#### NOTES:

1) ECON UN2261 Accounting and Finance for Economics does NOT count as an economics elective. Financial Economics majors may take this course to fulfill their accounting requirement.

2) The above list is not necessarily complete. Barnard Department on occasion adds new lecture courses. If you have a question about a Barnard elective course not listed above, then you should contact [econ-advising@columbia.edu](mailto:econ-advising@columbia.edu).

## Transfer Courses

Any courses taken outside of the Economics Departments at Columbia or Barnard that you would like to apply towards the completion of your economics degree must be approved by the Department of Economics in addition to approval by your school. All majors and joint majors are required to take a minimum of 5 lecture courses from the Columbia Department of Economics and must take their senior seminar at Columbia.

See the [Transfer Credit Information](#) page for details on which courses may be eligible for transfer credit, as well as information on how to apply for transfer credit. Please read the information carefully before submitting your materials for review.

## Study Abroad Courses

All students who plan to study abroad must contact Sunil Gulati during the prior semester to get preliminary approval for any economics courses that they intend to take abroad. Students should also review the information posted on the [Transfer Credit Information](#) page for details regarding which courses may be eligible.

## Summer Courses

All students who hope to take classes in the Summer outside of Columbia University must also contact Sunil Gulati in advance to get preliminary approval for any economics courses. Note that students must also have approval from their school to take Summer courses outside of Columbia.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

All majors write a research paper in either a senior seminar or in the honors seminar. Each semester the department offers a wide range of senior seminars (see [Senior Seminar Descriptions](#) for the seminars currently on offer). Seminars are small, discussion-based courses focused on a research topic in economics. Students are expected to attend and participate in these courses, as well as to write an original research paper. Registration information for senior seminars is available on the [Senior Seminar Registration](#) page. Some students will write a senior thesis in the Honors Seminar. Details about writing a senior thesis are below.

### Senior Thesis Coursework and Requirements

#### SENIOR HONORS THESIS

##### Honors Seminar

The honors seminar is a full-year course, and you will not receive a grade until you have completed both semesters. Completing both semesters satisfies your seminar requirement in the economics department. If you do not complete both semesters, however, you must take a senior seminar to graduate as a major. For details see the Senior Honors Thesis info on the [Honors and Prizes](#) page.

Students who successfully complete the Honors Seminar are eligible to graduate with departmental honors in economics.

### Undergraduate Research Outside of Courses

During the academic year, students may work as an RA with a faculty member or PhD student and receive 1 – 2 credits of either ECON GU4996 Research Credit or ECON GU4995 Research Credit (GU 4995 is for GS students only). Research positions typically entail an average of 3 hours of work per week per credit. Research credit may not be used as a substitute for elective or seminar requirements in the major and students will receive a letter grade for their work. Students considering graduate work or writing a senior thesis in economics should take one or more RA positions during their time at Columbia. Information on Research Credit (GU4995 and GU4996) is posted on the [Opportunities](#) page. Available RA positions are posted every semester on our WIKI page, [Econ Info For Students](#) (log-in required).

## DEPARTMENT HONORS AND PRIZES

### Departmental Honors

Economics majors and economics joint majors who wish to be considered for departmental honors in economics must:

1. Have at least a 3.7 GPA in their major courses;
2. Take ECON GU4999 Senior Honors Thesis Workshop (a one-year course);
3. Receive at least a grade of A- in ECON GU4999 Senior Honors Thesis Workshop.

Students must apply for admission to GU4999 and details regarding that application are included in the annual Summer Mailing sent to all students with a declared program in economics. Please note that ECON GU4999 Senior Honors Thesis Workshop may be taken to fulfill the seminar requirement for the economics major and all economics joint majors. Normally no more than 10% of graduating majors receive departmental honors in a given academic year. Please see the [Honors and Prizes](#) page on the department's website for more information.

### Undergraduate Prizes

All prize recipients are announced at the end of the spring semester each academic year.

**Sanford S. Parker Prize**

Established in 1980, this prize is awarded annually to a Columbia College graduating student who majored or concentrated in economics and plans on continuing his or her studies in an economics Ph.D. program within the two years following his or her graduation.

**Romine Prize**

Established in 1997, this prize is awarded annually to two students (Columbia College or General Studies) majoring in economics: one for the best honors thesis paper, and the other for the best economics seminar paper.

**Summer Research Prizes***Parker Summer Research Fellowship*

The Parker Summer Fellowship provides financial support for five Columbia College underclassmen who take unpaid summer internships that focus on research. Preference is given to students working with Columbia researchers but all CC students undertaking a summer research position are eligible to apply.

*GS Prize for Summer Research*

The GS Summer Fellowship provides financial support for 2 GS underclassmen who take unpaid summer internships that focus on research. Preference is given to students working with Columbia researchers but all GS students undertaking a summer research position are eligible to apply.

**OTHER IMPORTANT INFORMATION****Online Information**

Students can access useful information online, including but not limited to: a comprehensive FAQ page; transfer credit information; sample programs and checklists; faculty office hours, contact information and fields of specialization; advisor contact information; teaching and research assistant opportunities; a list of tutors; and current course offerings.

Posted on our [Announcements](#) page are links to the most important memos that we distribute to our majors including pre-registration mailings, the summer mailing and information for new majors. Our [WIKI](#) page has information about opportunities both inside and outside of the department. Login is required to access the WIKI page.

**Frequently Asked Questions**

As a first step, students are encouraged to visit the Dept.'s [FAQ page](#), which provides comprehensive information and answers to the most frequently-asked questions about the departmental majors and requirements. This page also includes a section that answers specific questions of first-year students, sophomores, and non-majors.

**PROFESSORS**

Douglas Almond (also School of International and Public Affairs)

Jushan Bai

Jagdish N. Bhagwati

Sandra Black (also School of International and Public Affairs)

Alessandra Casella (also Political Science Department)

Yeon-Koo Che

Pierre-André Chiappori

Graciela Chichilnisky

Richard Clarida (also School of International and Public Affairs)

Donald Davis

Prajit Dutta

Gautam Gowrisankaran

Harrison Hong

R. Glenn Hubbard (also Business School)

Navin Kartik

Wojciech Kopczuk (also School of International and Public Affairs)  
 Sokbae (Simon) Lee  
 Qingmin Liu  
 Suresh Naidu (also School of International and Public Affairs)  
 Serena Ng  
 Brendan O'Flaherty  
 Andrea Prat (also Business School)  
 Jeffrey Sachs (also Earth Institute, School of International and Public Affairs, Dept of Health Policy and Management)  
 Xavier Sala-i-Martin  
 Bernard Salanié  
 José A. Scheinkman  
 Stephanie Schmitt-Grohé  
 Joseph Stiglitz (also Business School, School of International and Public Affairs)  
 Martín Uribe  
 Miguel Urquiola (also School of International and Public Affairs)  
 Eric Verhoogen (also School of International and Public Affairs)  
 Ebonya Washington (also School of International and Public Affairs)  
 David Weinstein  
 Michael Woodford (Chair)

## ASSOCIATE PROFESSORS

Mark Dean  
 Lena Edlund  
 Jennifer La'O

## ASSISTANT PROFESSORS

Hassan Afrouzi  
 Michael Best  
 Matthieu Gomez  
 Emilien Gouin-Bonenfant  
 Elliot Lipnowski  
 Neomie Pinardon-Touati  
 Evan Sadler  
 Pietro Tebaldi  
 Jack Willis

## LECTURERS

Irasema Alonso  
 Isaac Bjorke  
 Tri Vi Dang  
 Susan Elmes  
 Seyhan Erden  
 Tamrat Gashaw  
 Sunil Gulati  
 Waseem Noor

## ADJUNCT FACULTY

Qi Ge  
 Claudia Halbac  
 Karla Hoff  
 Caterina Musatti

## ON LEAVE

Prof. Willis (2023-2024)

Profs. Che, Gouin-Bonenfant, Hong, Lipnowski, Sadler, Washongton *Fall 2023*)

Profs. Casella, Schmitt-Grohe (*Spring 2024*)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

There are a number of resources to assist you in planning your program in economics.

- [Checklists](#) for all programs are available on our website.
- [Econ-advising](#) is available to assist all students with academic planning. They can be reached by email or in person during their office hours.
- Tentative annual course offerings are posted on the [website](#) and in departmental newsletters.
- Information for new students is posted on the [Academic Resources Fair](#) page.

### Course Numbering Structure

All economics programs begin with an introductory 1000 level course (Principles of Economics) and progress through the required 3000 level required core economics courses (Intermediate Micro, Intermediate Macro and Econometrics). Most elective courses are offered at the 3000 and 4000 level and all require that students have completed at least UN 3211 Int Micro and UN 3213 Int Macro. The department offers a limited number of 2000 level electives and these courses only require that students have completed Principles of Economics.

### Guidance for First-Year Students

Our [Academic Resources Fair](#) page has answers to the most common questions of new students at Columbia. On that page you will find information about advising, placement, course planning, opportunities in the department and much more. If you are interested in pursuing economics, then it is strongly recommended that you read through the information posted here.

### Guidance for Transfer Students

Our [Academic Resources Fair](#) page has answers to the most common questions of transfer students at Columbia. On that page you will find information about advising, placement, course planning, opportunities in the department and much more. If you are interested in pursuing economics, then it is strongly recommended that you read through the information posted here.

The [Transfer Credit](#) page has all of the information that you will need to apply for transfer credits for economics courses that you have taken elsewhere. Note that the economics department will also review your transfer credits for calculus I, statistics and accounting courses. Details about all of these courses are also posted at Transfer Credit Information.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

#### Checklists and Requirements

Checklists and Requirement information are available on the [Department website](#).

#### Economics Core Courses

**All** of the core courses must be completed **no later than the spring semester** of the student's **junior year** and must be taken at Columbia. *Students who take any core course during the fall semester of their senior year must obtain written permission*



from the department's director of undergraduate studies. Unless otherwise specified below, all students must complete the following core courses:

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS

### Prerequisites

Course prerequisites are strictly enforced. Prerequisites must be taken before the course, not after or concurrently.

Economics courses taken before the completion of any of its prerequisites, even with instructor approval, are **not** counted toward the major, concentration, or interdepartmental majors. Exemptions from a prerequisite requirement may only be made, in writing, by the department's director of undergraduate studies. Credits from a course taken *prior* to the completion of its prerequisites are **not** counted towards the major requirements. As a consequence, students are required to complete **additional**, specific courses in economics at the direction of the director of undergraduate studies.

The prerequisites for required courses are as follows:

Course	Prerequisites
ECON UN1105 PRINCIPLES OF ECONOMICS	None
MATH UN1101 CALCULUS I	
STAT UN1201 CALC-BASED INTRO TO STATISTICS	MATH UN1101 CALCULUS I
ECON UN3211 INTERMEDIATE MICROECONOMICS	ECON UN1105 PRINCIPLES OF ECONOMICS MATH UN1201 CALCULUS III or UN1205
ECON UN3213 INTERMEDIATE MACROECONOMICS	ECON UN1105 PRINCIPLES OF ECONOMICS MATH UN1101 CALCULUS I Co-requisite: MATH UN1201 CALCULUS III or UN1205
ECON UN3412 INTRODUCTION TO ECONOMETRICS	MATH UN1201 CALCULUS III or UN1205 ECON UN3211 INTERMEDIATE MICROECONOMICS or UN3213 STAT UN1201 CALC-BASED INTRO TO STATISTICS
ECON 2000-level electives	ECON UN1105 PRINCIPLES OF ECONOMICS
ECON GU4211 ADVANCED MICROECONOMICS	ECON UN3211 INTERMEDIATE MICROECONOMICS ECON UN3213 INTERMEDIATE MACROECONOMICS MATH UN2010 LINEAR ALGEBRA Corequisites: MATH UN2500 ANALYSIS AND OPTIMIZATION or GU4061
ECON GU4412 ADVANCED ECONOMETRICS	ECON UN3211 INTERMEDIATE MICROECONOMICS
ECON GU4213 ADVANCED MACROECONOMICS	ECON UN3213 INTERMEDIATE MACROECONOMICS
ECON GU4413 Econometrics of Time Series and Forecasting	ECON UN3412 INTRODUCTION TO ECONOMETRICS MATH UN2010 LINEAR ALGEBRA
ECON UN3025 FINANCIAL ECONOMICS	ECON UN3211 INTERMEDIATE MICROECONOMICS
ECON GU4020 ECON OF UNCERTAINTY # INFORMTN	ECON UN3213 INTERMEDIATE MACROECONOMICS
ECON GU4230 ECONOMICS OF NEW YORK CITY	STAT UN1201 CALC-BASED INTRO TO STATISTICS
ECON GU4260 MARKET DESIGN	
ECON GU4280 CORPORATE FINANCE	
ECON GU4370 POLITICAL ECONOMY	
ECON GU4700 FINANCIAL CRISES	
ECON GU4710 FINANCE AND THE REAL ECONOMY	
ECON GU4850 COGNITIVE MECH # ECON BEHAVIOR	

## ECON GU4860 BEHAVIORAL FINANCE

All other ECON 3000- and 4000-level electives

ECON UN3901 ECONOMICS OF EDUCATION  
ECON UN3952 MACROECONOMICS#FORMATION OF EXPECTATIONS

ECON UN3981 APPLIED ECONOMETRICS

ECON GU4911 MICROECONOMICS SEMINAR

ECON GU4913 MACROECONOMICS SEMINAR

ECON GU4918 SEMINAR IN ECONOMETRICS

ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS

ECPH GU4950 ECONOMICS # PHILOSOPHY

Barnard electives

ECON UN3211 INTERMEDIATE MICROECONOMICS  
ECON UN3213 INTERMEDIATE MACROECONOMICS  
ECON UN3412 INTRODUCTION TO ECONOMETRICS  
(Co-requisite)ECON UN3211 INTERMEDIATE MICROECONOMICS  
ECON UN3213 INTERMEDIATE MACROECONOMICSECON UN3211 INTERMEDIATE MICROECONOMICS  
ECON UN3213 INTERMEDIATE MACROECONOMICS  
ECON UN3412 INTRODUCTION TO ECONOMETRICSECON UN3211 INTERMEDIATE MICROECONOMICS  
ECON UN3213 INTERMEDIATE MACROECONOMICS  
ECON UN3412 INTRODUCTION TO ECONOMETRICS  
ECON GU4370 POLITICAL ECONOMYECON UN3211 INTERMEDIATE MICROECONOMICS  
ECON UN3213 INTERMEDIATE MACROECONOMICS  
ECON UN3412 INTRODUCTION TO ECONOMETRICS

See Barnard bulletin

It is **strongly recommended** that students take ECON UN3412 INTRODUCTION TO ECONOMETRICS in the semester **immediately** following the completion of the statistics course.

### Grading

No course with a grade of D or lower, including calculus and statistics courses, can count toward the major, concentration, or interdepartmental majors. Economics core courses with a grade of D or F must be retaken and completed with a grade of C- or better.

Students who receive a grade of D or F in a core course are permitted to take a higher-level elective course that has that core course as a prerequisite, so long as it is taken concurrently with the retaking of that core course. For example, if a student fails ECON UN3211 INTERMEDIATE MICROECONOMICS, the student must retake it and, in the same semester, may enroll in an elective course for which it is a prerequisite, provided that all other prerequisites for the elective have been completed. The same rule applies to the required math and statistics courses. For example, if a student fails *MATH UN1201 CALCULUS III*, the student may retake calculus III concurrently with *Intermediate Microeconomics*. Students who must retake any core economics or math course may not retake it concurrently with a senior seminar; the economics core courses *ECON UN3211 INTERMEDIATE MICROECONOMICS*, *ECON UN3213 INTERMEDIATE MACROECONOMICS*, and *ECON UN3412 INTRODUCTION TO ECONOMETRICS* must be successfully completed before a student may enroll in a seminar.

A grade of W is not equivalent to a grade of D or F; it does not qualify a student to retake the course concurrently with a higher level course that lists the course as a prerequisite. Students who receive a grade of W in a core course must complete the course with a grade of C- or better before taking a course that lists it as a prerequisite.

Only ECON UN1105 PRINCIPLES OF ECONOMICS may be taken for a grade of Pass/D/Fail, and the student must receive a grade of P for it to count towards the requirements for the major, concentration, or interdepartmental majors.

### Economics Electives

Only those courses identified in the Economics Department listings in this Bulletin may be taken for elective credit.

All 3000-level or higher electives offered by the Economics Department have ECON UN3211 INTERMEDIATE MICROECONOMICS and ECON UN3213 INTERMEDIATE MACROECONOMICS as prerequisites. However, some electives have additional prerequisites and students should ensure that all prerequisites have been completed (see the table of prerequisites printed above). *Seminars do not count as electives.*

### Seminars

Seminars can be taken only after all of the required core courses in economics have been successfully completed. Students may not take or re-take ECON UN3211 INTERMEDIATE MICROECONOMICS, ECON UN3213 INTERMEDIATE MACROECONOMICS, or ECON UN3412 INTRODUCTION TO ECONOMETRICS concurrently with any senior seminar. *Seminars do not count as electives.* Each seminar is limited to sixteen students, with priority given to seniors. For ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS and ECPH GU4950 ECONOMICS # PHILOSOPHY, priority is given to economics-political science and economics-philosophy majors, respectively.

For seminar registration details, read the information posted on the department's *Senior Seminar Registration* page: <http://econ.columbia.edu/senior-seminars-registration>.

## Mathematics

Students must consult with the Mathematics Department for the appropriate placement in the calculus sequence. Students must complete one of the following sequences:

Select one of the following sequences:

MATH UN1101 & MATH UN1201	CALCULUS I and CALCULUS III
MATH UN1101 & MATH UN1205	CALCULUS I and ACCELERATED MULTIVARIABLE CALC
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

In addition:

1. Students who receive a grade of D or F in MATH UN1201 CALCULUS III or MATH UN1205 must retake the course, but may enroll in ECON UN3211 INTERMEDIATE MICROECONOMICS.
2. Students who receive a grade of D or F in MATH UN1207 HONORS MATHEMATICS A may either retake the course, or take MATH UN1201 CALCULUS III or MATH UN1205, and enroll in ECON UN3211 INTERMEDIATE MICROECONOMICS concurrently.

## Statistics

Unless otherwise specified below, all students must take STAT UN1201 CALC-BASED INTRO TO STATISTICS, or a higher level course, such as STAT GU4204 STATISTICAL INFERENCE, or STAT GU4001.

## Barnard Courses

A limited number of Barnard economics electives may count toward the major, concentration, and interdepartmental majors. Students should pay careful attention to the limit of Barnard electives indicated in their program requirements. Please see the *Transfer Credit* section below for information on the number of Barnard electives that may be taken to fulfill major requirements. In addition, students may receive credit for the major, concentration, and interdepartmental majors only for those Barnard economics courses listed in this Bulletin. However, students may not receive credit for two courses whose content overlaps. Barnard and Columbia economics electives with overlapping content include but are not limited to:

ECON BC3029 & ECON GU4321	EMPIRICAL APPROACHES DEVLPMNT and ECONOMIC DEVELOPMENT
ECON BC3038 & ECON GU4505	INTERNATIONAL MONEY # FINANCE and INTERNATIONAL MACROECONOMICS
ECON BC3019 & ECON GU4400	LABOR ECONOMICS and LABOR ECONOMICS
ECON BC3047 & ECON GU4500	International Trade and INTERNATIONAL TRADE
ECON BC3039 & ECON GU4625	Environmental and Natural Resource Economics and ECONOMICS OF THE ENVIRONMENT
ECON BC3041 & ECON GU4235	THEORETICAL FOUNDATIONS-POLIT ECON and HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes
ECON GU4400	LABOR ECONOMICS

ECON GU4235

HISTORICAL FOUNDATIONS OF MODERN ECONOMICS:  
Adam Smith to J M Keynes

Students should always first consult with *econ-advising* to confirm that the Barnard elective they wish to take does not overlap with a Columbia elective that they have already taken or plan to take. Students may *not* take the Barnard core economics, math, statistics, or seminar courses for credit towards the completion of major requirements.

### School of Professional Studies Courses

The Department of Economics does not accept *any* of the courses offered through the School of Professional Studies for credit towards the economics major, concentration, or interdepartmental majors with the exception of the courses offered by the Economics Department during the summer session at Columbia.

### Other Department and School Courses

Please note that with the exception of the above Barnard courses and the specific courses listed below for the financial economics major, no other courses offered through the different departments and schools at Columbia count toward the economics majors or concentration.

### Transfer Credits

Students are required to take a minimum number of courses in the Columbia Economics Department. For all majors and interdepartmental majors, students must complete a minimum of *five* lecture courses in the Columbia department. Students may fulfill their remaining requirements for economics lecture courses through AP (or IB or GCE) credits, Barnard electives, transfer courses, and study abroad courses (the latter two are subject to the approval of the Economics Department). The following table summarizes the new rules:

Program	Number of required economics lecture courses	Minimum number which must be taken in the department	Maximum number of outside allowed
Economics major	9	5	4
Financial economics	8	5	3
Economics-mathematics	7	5	2
Economics-political science	7	5	2
Economics-statistics	7	5	2
Economics-philosophy	7	5	2
Economics concentration	7	4	3

1. **Lecture courses** do not include seminars, which must be taken in the Columbia Economics Department. The lecture course counts are counts of economics courses only and do **not** include math, statistics, or courses in other departments;
2. At least two of the three 3000-level economics core courses must be taken in the department and no corresponding Barnard courses are accepted. ECON UN3025 FINANCIAL ECONOMICS and ECON UN3265 MONEY AND BANKING are counted as departmental courses regardless of the instructor;
3. **Outside courses** include AP (or IB or GCE) credits, transfer credits, Barnard 2000- and 3000-level elective courses and transfer credits from other universities. In the case where two or more courses taken outside of Columbia are used as the equivalent of ECON UN1105 PRINCIPLES OF ECONOMICS, those courses are counted as one transfer course.
4. At least one of the core finance courses, ECON UN3025 FINANCIAL ECONOMICS and ECON GU4280 CORPORATE FINANCE, must be taken at Columbia.

**Approval of transfer credits** to fulfill economics requirements must be obtained in writing from the Department of Economics (see the [departmental website](#) or speak with your advising dean for information regarding applications for transfer credit). Approval is granted only for courses that are considered to be comparable to those offered at Columbia.

**Summer courses** taken at other institutions must be approved in writing by the department's transfer credit adviser before the course is taken. The department does not accept transfer credits for any 3000 level core courses taken during a summer session outside of Columbia University. Summer courses taken from the department of economics at Columbia University do not need approval.

**Guidelines and instructions** on how to request transfer credit approval can be found in the *Transfer Credit Information* page of the [departmental website](#).

## Major in Economics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The economics major requires a minimum of 35 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of at least 44 points as follows:

### Economics Core Courses

All economics core courses

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Economics Electives

Select at least five electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

### Economics Seminar

Select one economics seminar course

## Major in Financial Economics

Please read **Required Coursework for all Programs** above.

The Department of Economics offers the major in financial economics, which provides an academic framework to explore the role of financial markets and intermediaries in the allocation (and mis-allocation) of capital. Among the topics studied in financial economics are financial markets, banks and other financial intermediaries, asset valuation, portfolio allocation, regulation and corporate governance.

The financial economics major requires 26 points in economics, 6 points in mathematics, 3 points in statistics, 3 points in business, and 12 points from a list of selected courses for a total minimum of 50 points as follows:

### Economics Core Courses

All economics core courses

### Finance Core Courses \*

ECON UN3025	FINANCIAL ECONOMICS
ECON GU4280	CORPORATE FINANCE
BUSI UN3013	FINANCIAL ACCOUNTING

\*NOTE: The department considers BUSI UN3013, IEOR E2261 and ECON UN2261 as overlapping courses. Students who take these three courses shall be credited with one course only. Financial economics majors who are also in the Business Management concentration program (CNBUMG) must take an additional elective from either the financial economics prescribed elective list (below) or from the CNBUMB prescribed list.

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Electives

Select four of the following, of which two must be from the Columbia or Barnard economics departments, or equivalent economics transfer credits:

ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON UN3265	MONEY AND BANKING
ECON UN3901	ECONOMICS OF EDUCATION



ECON UN3952	MACROECONOMICS#FORMATION OF EXPECTATIONS
ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
ECON GU4213	ADVANCED MACROECONOMICS
ECON GU4251	INDUSTRIAL ORGANIZATION
ECON GU4260	MARKET DESIGN
ECON GU4412	ADVANCED ECONOMETRICS
ECON GU4415	GAME THEORY
or ECON BC3080	Applied Game Theory
ECON GU4465	PUBLIC ECONOMICS
or ECON BC3026	Economics of the Public Sector
ECON GU4500	INTERNATIONAL TRADE
or ECON BC3047	International Trade
ECON GU4505	INTERNATIONAL MACROECONOMICS
or ECON BC3038	INTERNATIONAL MONEY # FINANCE
ECON G4526	Transition Reforms, Globalization and Financial Crisis
ECON GU4615	LAW AND ECONOMICS
ECON GU4630	Climate Finance
ECON GU4700	FINANCIAL CRISES
ECON GU4710	FINANCE AND THE REAL ECONOMY
ECON GU4840	BEHAVIORAL ECONOMICS
or ECON BC3048	Introduction to Behavioral Economics
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
ECON GU4860	BEHAVIORAL FINANCE
BIOT GU4180	ENTREPRENEURSHIP IN BIOTECH
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
ECON BC3043	Monetary Theory # Policy
BUSI UN3021	MARKETING MANAGEMENT
BUSI UN3701	STRATEGY FORMULATION
BUSI UN3702	VENTURING TO CHANGE THE WORLD
BUSI UN3703	LEADERSHIP IN ORGANIZATION
BUSI UN3704	Making History Through Venturing
COMS W1002	COMPUTING IN CONTEXT
HIST W2904	History of Finance
IEOR E4106	STOCHASTIC MODELS
IEOR E4700	INTRO TO FINANCIAL ENGINEERING
MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GR5010	INTRO TO THE MATH OF FINANCE
POLS UN3630	POLITCS OF INTL ECON RELATIONS
STAT W3201	Math Finance in Continuous Time
STAT GU4261	STATISTICAL METHODS IN FINANCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance

### Seminar

The seminar must be chosen from a list of seminars eligible for the financial economics major. The department indicates which seminars are eligible for the major on the Senior Seminars page of the departmental website.

Students must have completed at least one of ECON UN3025 or ECON GU4280 prior to taking their senior seminar.

- \* 1) Students must complete the finance core no later than fall of their senior year. 2) At least one of the core finance courses, ECON UN3025 and ECON GU4280, must be taken at Columbia.

## Major in Economics-Mathematics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The major in economics and mathematics provides students with a grounding in economic theory comparable to that provided by the general economics major and exposes students to rigorous and extensive training in mathematics. The program is recommended for any student planning to do graduate work in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Mathematics has an assigned adviser with whom students may consult on mathematics requirements. The economics adviser can only advise on economics requirements; the mathematics adviser can only advise on mathematics requirements.

The economics-mathematics major requires a total of 52 or 56 points (depending on mathematics sequence) : 29 points in economics and 23-27 points in mathematics and statistics as follows:

### Economics Core Courses

All economics core courses

### Economics Electives

Select three electives at the 3000-level or above

### Mathematics

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

Note: Students who take MATH UN1205 may not receive credit for both MATH UN1201 and MATH UN1202.

Analysis requirement:

MATH UN2500	ANALYSIS AND OPTIMIZATION
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Select three of the following:

MATH UN1202	CALCULUS IV
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS

Any mathematics course at the 3000-level or above

Note: Students who take MATH UN1205 will not receive credit for MATH UN1202.

### Statistics

Select one of the following sequences:

STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS
STAT GU4203 & STAT GU4204	PROBABILITY THEORY and STATISTICAL INFERENCE

### Economics Seminar

Select an economics seminar

NOTE:

1. Students who fulfill the statistics requirement with STAT GU4203 and STAT GU4204, may count STAT GU4203 or STAT GU4204 as one of the three required mathematics electives.
2. Students who choose the one year sequence (STAT GU4203/ STAT GU4204), must complete the year long sequence *prior* to taking ECON UN3412. Students receive elective credit for the probability course.

## Major in Economics-Philosophy

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

Economics-philosophy is an interdisciplinary major that introduces students to basic methodologies of economics and philosophy and stresses areas of particular concern to both, e.g. rationality and decision making, justice and efficiency, freedom and collective choice, logic of empirical theories and testing. Many issues are dealt with historically. Classic texts of Plato, Kant, Mill, Marx, and Smith are reviewed.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Philosophy has an assigned adviser with whom students may consult on philosophy requirements. The economics adviser can only advise on economics requirements; the philosophy adviser can only advise on philosophy requirements.

The economics-philosophy major requires a total minimum of 54 points: 25 points in economics, 16 points in philosophy, 6 points in mathematics, 3 points in statistics, and 4 points in the interdisciplinary seminar as follows:

### Economics Core Courses

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Economics Electives

Three Electives are required; two must be selected from the below list, and the remaining elective may be any economics elective at the 3000-level or above.

ECON GU4020	ECON OF UNCERTAINTY # INFORMTN
ECON UN3901	ECONOMICS OF EDUCATION
ECON GU4211	ADVANCED MICROECONOMICS
ECON GU4213	ADVANCED MACROECONOMICS
ECON GU4228	URBAN ECONOMICS
ECON GU4230	ECONOMICS OF NEW YORK CITY
ECON GU4235	HISTORICAL FOUNDATIONS OF MODERN ECONOMICS: Adam Smith to J M Keynes
or ECON BC3041	THEORETICAL FOUNDATIONS-POLIT ECON
ECON GU4260	MARKET DESIGN
ECON GU4301	ECONOMIC GROWTH # DEVELOPMENT I
ECON GU4321	ECONOMIC DEVELOPMENT
or ECON BC3029	EMPIRICAL APPROACHES DEVELOPMENT
ECON GU4370	POLITICAL ECONOMY
ECON GU4400	LABOR ECONOMICS
or ECON BC3019	LABOR ECONOMICS
ECON GU4415	GAME THEORY
or ECON BC3080	Applied Game Theory
ECON GU4438	ECONOMICS OF RACE IN THE U.S.
ECON GU4465	PUBLIC ECONOMICS
or ECON BC3026	Economics of the Public Sector
ECON GU4480	GENDER # APPLIED ECONOMICS
ECON GU4500	INTERNATIONAL TRADE
or ECON BC3047	International Trade
ECON GU4615	LAW AND ECONOMICS
ECON GU4625	ECONOMICS OF THE ENVIRONMENT

or ECON BC3039	Environmental and Natural Resource Economics
ECON GU4630	Climate Finance
ECON GU4750	GLOBALIZATION # ITS RISKS
ECON GU4840	BEHAVIORAL ECONOMICS
or ECON BC3048	Introduction to Behavioral Economics
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
ECON BC3011	INEQUALITY AND POVERTY
<b>Philosophy Courses</b>	
PHIL UN1010	METHDS/PROB OF PHILOS THOUGHT
PHIL UN3411	SYMBOLIC LOGIC
PHIL UN3701	ETHICS
PHIL UN3551	PHILOSOPHY OF SCIENCE
or PHIL UN3960	EPISTEMOLOGY
PHIL GU4561	PROBABILITY # DECISION THEORY
<b>Seminar</b>	
ECPH GU4950	ECONOMICS # PHILOSOPHY

**Students who declared before Spring 2014:** The requirements for this program were modified in 2014. Students who declared this program before Spring 2014 should contact the director of undergraduate studies for the department in order to confirm their options for major requirements.

## Major in Economics–Political Science

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

Political economy is an interdisciplinary major that introduces students to the methodologies of economics and political science and stresses areas of particular concern to both. This program is particularly beneficial to students planning to do graduate work in schools of public policy and international affairs.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Political Science has an assigned adviser with whom students may consult on political science requirements. The economics adviser can only advise on economics requirements; the political science adviser can only advise on political science requirements.

The economics–political science major requires a total of 59 points: 22 points in economics, 17 points in political science, 6 points in mathematics, 6 points in statistical methods, 4 points in a political science seminar, and 4 points in the interdisciplinary seminar as follows.

The political science courses are grouped into four areas, i.e. subfields: (1) American Politics, (2) Comparative Politics, (3) International Relations, and (4) Political Theory. For the political science part of the major, students are required to select one area as a major subfield and one as a minor subfield. The corresponding introductory courses in both subfields must be taken, plus two electives in the major subfield, and one in the minor subfield.

### Economics Core Courses

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON GU4370	POLITICAL ECONOMY

### Mathematics

Select a mathematics sequence

### Statistical Methods

STAT UN1201	CALC-BASED INTRO TO STATISTICS
Select one of the following:	
ECON UN3412	INTRODUCTION TO ECONOMETRICS
POLS GU4712	PRINC OF QUANT POL RESEARCH 2

### Economics Electives

Select two electives (6 points) at the 3000-level or above

### Political Science Courses

Students must choose a Primary Subfield and a Secondary Subfield to study. The subfields are as follows: American Politics (AP), Comparative Politics (CP), International Relations (IR), and Political Theory (PT).

Primary Subfield: Minimum three courses, one of which must be the subfield's introductory course.

Secondary Subfield: Minimum two courses, one of which must be the subfield's introductory course.

### Seminars

Students must take the following two seminars:

ECPS GU4921 SEMINAR IN POLITICAL ECONOMICS

and a Political Science Department seminar, in the student's Primary Subfield. Please select one of the following: \*

POLS UN3911 SEMINAR IN POLITICAL THEORY

or POLS UN3912 SEMINAR IN POLITICAL THEORY

POLS UN3921 AMERICAN POLITICS SEMINAR

or POLS UN3922 AMERICAN POLITICS SEMINAR

POLS UN3951 COMPARATIVE POLITICS SEMINAR

or POLS UN3952 Seminar in Comparative Politics

POLS UN3961 INTERNATIONAL POLITICS SEMINAR

or POLS UN3962 INTERNATIONAL POLITICS SEMINAR

- Students who wish to count toward the political science seminar requirement a course that is not in the above list of approved seminars must obtain permission from the political science Director of Undergraduate studies. Barnard colloquia can count for seminar credit only with the written permission of the Director of Undergraduate Studies. Note that admission to Barnard colloquia is by application to the Barnard political science department only.

## Major in Economics-Statistics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The major in economics-statistics provides students with a grounding in economic theory comparable to that provided by the general economics major, but also exposes students to a significantly more rigorous and extensive statistics training than is provided by the general major. This program is recommended for students with strong quantitative skills and for those contemplating graduate studies in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Statistics has an assigned adviser with whom students may consult on statistics requirements. The economics adviser can only advise on economics requirements; the statistics adviser can only advise on statistics requirements.

The economics-statistics major requires a total of 59 points: 29 in economics, 15 points in statistics, 12 points in mathematics, 3 points in computer science as follows:

### Economics Core Courses

All economics core courses

### Economics Electives

Select three electives at the 3000-level or above

### Mathematics

Select one of the following sequences:

MATH UN1101  
& MATH UN1102  
& MATH UN1201  
& MATH UN2010  
CALCULUS I  
and CALCULUS II  
and CALCULUS III  
and LINEAR ALGEBRA

MATH UN1101  
& MATH UN1102  
& MATH UN1205  
& MATH UN2010  
CALCULUS I  
and CALCULUS II  
and ACCELERATED MULTIVARIABLE CALC  
and LINEAR ALGEBRA



MATH UN1207  
& MATH UN1208

HONORS MATHEMATICS A  
and HONORS MATHEMATICS B

#### Statistics

STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS

One elective in statistics from among courses numbered STAT GU 4206 through GU 4266.

#### Computer Science

Select one of the following:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
COMS W1007	
ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
STAT UN2102	Applied Statistical Computing

#### Economics Seminar

ECON GU4918	SEMINAR IN ECONOMETRICS
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**Students who declared before Spring 2014:** The requirements for this program were modified in 2014. Students who declared this program before Spring 2014 should contact the director of undergraduate studies for the department in order to confirm their options for major requirements.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Economics

Please read **Required Coursework for all Programs** above. [Checklists](#) for all programs are available on our website.

The economics concentration requires a minimum of 25 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of at least 34 points as follows:

#### Economics Core Courses

All economics core courses

#### Mathematics

Select a mathematics sequence

#### Statistics

Select a Statistics course

#### Economics Electives

Select at least three electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

## FRENCH

### THE FRENCH DEPARTMENT:

Department website: <https://french.columbia.edu/>

Office location: 515-521 Philosophy Hall

Office contacts: Julie L. Stevens [js4504@columbia.edu](mailto:js4504@columbia.edu)

Department Chair: Prof. [Emmanuelle Saada](#) [es2593@columbia.edu](mailto:es2593@columbia.edu)

Director of Undergraduate Studies: Prof. [Aubrey Gabel](#), [aag2188@columbia.edu](mailto:aag2188@columbia.edu)

Director of the French Language Program: Dr. [Pascale Hubert-Leibler](#) [ph2028@columbia.edu](mailto:ph2028@columbia.edu)

Undergraduate Administrator: Benita Dace, [byd1@columbia.edu](mailto:byd1@columbia.edu)

## FRENCH AND FRANCOPHONE STUDIES

The undergraduate [Major in French and Francophone Studies](#) and [Minor in French and Francophone Studies](#) give students

an overview of French and francophone literature, culture, politics, and societies from the Middle Ages to the present. Students take a series of required courses in which they hone their linguistic skills (primarily with Read, Think, Write in French) before delving into the study of literature, culture, politics and society with Introduction to French and Francophone Studies: History and Introduction to French and Francophone Studies: Literature, and the Senior Seminar in which students refine their understanding of literary analysis, works and methods and are introduced to research in French and francophone studies. Students also take advanced electives on any aspect of French or francophone literature, culture, or history.

The optional Senior Essay, written under the guidance of a faculty member at Columbia or during a student's semester abroad, provides an initiation to scholarly research. It is a requirement to be eligible for departmental honors.

Seeing as a direct experience of contemporary French society is an essential part of the program, students are strongly encouraged to spend a summer, a semester or an academic year at Reid Hall-Columbia University in Paris, where they can take courses that will be credited toward the French major as well as to other majors including Political Sciences, History or Art History. Qualified students may also take courses directly in the French university system.

Please reach out to the [Director of Undergraduate Studies](#) for Majors' and Minors' Worksheets (for French and Francophone Studies), which provide a breakdown of course requirements.

## STUDENT ADVISING

All advising for undergraduate students pursuing a French and Francophone studies major and minor is handled by the Director of Undergraduate Studies. Students with questions regarding language requirements should contact the Director of the French Language Program.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

Entering students are placed, or exempted, on the basis of their College Board Achievement or Advanced Placement scores, or their scores on the placement test taken online: [FRENCH PLACEMENT TEST](#). An SAT score of 780 or a score of 5 on the AP exam satisfies the language requirement. Students with a score of 4 on the AP exam will be placed in Intermediate II, but may attempt to place out by requesting to take an oral exam administered by the Director of the Language Program.

### Barnard College Courses

Many advanced literature and culture courses at Barnard College may fulfill elective credits for the French major

or minor at Columbia, pending approval by the Director of Undergraduate Studies. Please note: The Barnard course, [FREN BC1204](#) Intermediate II does not fulfill the undergraduate language requirement.

## Transfer Courses

Transfer students may apply a limited number of qualifying credits from other institutions to elective courses in the French major and minor, pending approval from the Director of Undergraduate Studies. Students should be expected to present syllabi and transcripts for courses at previous institutions.

## Study Abroad

Seeing as a direct experience of contemporary French society is an essential part of the program, students are strongly encouraged to spend either a summer term, a semester, or a full, academic year at Reid Hall, Columbia University's Global Center in Paris, where they can take courses that will be credited toward the French major as well as to other majors (e.g. history, art history, political science) and the global core. Qualified students may also take courses directly in the French university system.

For information on study abroad, visit the OGP website at [www.ogp.columbia.edu](http://www.ogp.columbia.edu), call 212-854-2559, or e-mail [studyabroad@columbia.edu](mailto:studyabroad@columbia.edu). For a list of approved study abroad programs, visit <http://www.ogp.columbia.edu/index.cfm?FuseAction=Programs.ListAll>. For Reid Hall's French immersion program, please visit <https://global.undergrad.columbia.edu/program/columbia-paris-semester>.

### Summer Study in Paris

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## Summer Courses

The French Department offers a limited number of courses in the French language and in French and francophone literature, history, and culture over the summer. For more information about summer courses in French, please contact [Samuel Skippon \(ss2642@columbia.edu\)](mailto:ss2642@columbia.edu), the Director of Summer Sessions.

## CORE CURRICULUM CONNECTIONS

The French Department offers courses in the Global Core, which may also count as electives in the French major or minor. For a current listing of Global Core courses, please

consult this website: <https://bulletin.columbia.edu/columbia-college/core-curriculum/global-core-requirement/>

## UNDERGRADUATE RESEARCH AND SENIOR ESSAY

### Senior Essay

The Senior Essay offers students an opportunity to immerse themselves in a research project and to hone their research and writing skills. It substitutes for an elective and makes the student eligible for departmental honors. The essay (25 pages minimum, in French) is usually written under the direction of a tenured or tenure-track faculty member (assistant professor, associate professor, or professor). Occasionally, with the permission of the DUS, the essay may be written under the direction of a lecturer. Only students who choose to write a Senior Essay are eligible for departmental honors.

The Senior Essay is a year-long project. Students are required to meet with the DUS to discuss their choice of adviser. They should do so preferably before the end of the spring semester of their junior year and no later than September 15th of their senior year. Once they have established a relationship with their adviser, they should have their research project approved by the latter, with a copy to the DUS (no later than October 15th). In the Spring, students should register for the Senior Tutorial in Literature (FREN UN3996). Students developing a Senior Essay are still required to take the Senior Seminar (FREN UN3995) in their senior year.

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The Department of French fosters students' research and critical thinking skills both inside and outside of the classroom. During their studies, interested students are encouraged to apply for undergraduate research funding opportunities, awarded by the department (see the Undergraduate Research Fellowship below), other Columbia units and outside sources. French and Francophone Studies graduates often go on to teach and research abroad, through programs like the [US Fulbright Program](#) or the [Teaching Assistant Program in France \(TAPIF\)](#).

## DEPARTMENT HONORS AND PRIZES

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- Souleymane Bachir Diagne
- Pierre Force
- Elisabeth Ladenson
- Camille Robcis
- Emmanuelle Saada
- Joanna Stalnaker
- Caroline Weber (Barnard)

### Associate Professors

- Thomas Dodman
- Eliza Zingesser

### Assistant Professors

- Aubrey Gabel

### Senior Lecturers

- Heidi Holst-Knudsen
- Pascale Hubert-Leibler
- Sophie Queuniet

### Lecturers

- Alexandra Borer



- Pascale Crépon
- Wesley F. Gunter
- Samuel Skippon
- Eric Matheis

Laurence Marie

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Students interested in majoring or minoring in French and Francophone Studies should consult the Curriculum Maps, available on the Bulletin and the Department of French website. Students should also meet with the Director of Undergraduate Studies to discuss their degree progress on a semesterly basis.

### Guidance for First-Year Students

Incoming students interested in majoring or minoring in French and Francophone Studies should immediately begin taking courses in French upon their arrival, after having taken the Language Placement Exam to test into the appropriate course level. Some students will need to take additional language courses before beginning courses for the major/minor, and others can proceed directly to major and/or minor requirements. As they continue with their course requirements, students should consult the Curriculum Maps, available on the Bulletin and the Department of French website. After their first year, students should also consult with the Director of Undergraduate Studies on a semesterly basis.

### Guidance for Transfer Students

Transfer students interested in majoring or minoring in French and Francophone Studies should immediately should also consult with the Director of Undergraduate Studies, who will decide which, if any, courses may be afforded transfer credit. Students should have syllabi and course materials on hand, so that the DUS can evaluate possible courses for transfer credits. After this, students majoring or minoring in French and Francophone Studies are encouraged to meet with the DUS to discuss their degree progress on a semesterly basis.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in French and Francophone Studies

For those students who would like to major in French and Francophone studies, please consult our website and the information below. Each student's program of study is to be discussed regularly with the Director of Undergraduate Studies, starting in the spring semester of the sophomore year.

#### COURSES

A minimum of 30 points beyond completion of the language requirement (FREN UN2102), which should be distributed as follows:

#### CORE (12 points):

FREN UN3405	Read, Think, Write in French (Formerly Titled, "Advanced Grammar and Composition")
FREN UN3409	INTRO TO FRENCH # FRANCOPHONE HISTORY
FREN UN3410	Intro French # Francophone Literature
FREN UN3995	SENIOR SEMINAR

#### ELECTIVES (18 points, or 15 points in case of a senior essay):

Six elective courses in French or francophone literature and culture at the 3000 or 4000 level.

These elective courses can include advanced literature, culture, and history courses offered by the Department of French, as well as our popular "French Thru/Through X" courses, which reinforce advanced French language proficiency through various cultural themes (including Current Events, Paris, Pop Culture, the Visual Arts, and so on).

These elective courses should include a minimum of one course that covers the Early-Modern period (before 1800) and a maximum of two "French Thru/Through X" classes (FREN UN32XX).

Students are encouraged to study abroad at Reid Hall. Relevant courses taken at Reid Hall or at a French partner institution may count towards the major.

Though students should prioritize classes taught in French and in the Department of French, courses with significant coverage of the French and Francophone world in other departments may also be counted towards the major with DUS approval.

Some French Barnard College courses may be taken with the approval of the Director of Undergraduate Studies.

#### CURRICULUM MAP:

- Students are encouraged to first complete FREN UN3405, to prepare themselves for other, more advanced university courses in French. One possible curriculum map is thus to take FREN UN3405, then



the core literature and history survey courses (in any order or concurrently), before completing the three required elective courses. However, additional core and elective courses can ultimately be taken in any order or concurrently.

- Elective credits can also be completed while studying abroad, either at the Columbia Undergraduate program at Reid Hall in Paris or at partner institutions, such as Sciences Po and a few other qualifying Parisian universities.
- Any elective courses taken at partner institutions will be subject to DUS approval.

## Minor in French and Francophone Studies

For those students who would like to minor in French and francophone studies, please consult our website and the information below. Each student's program of study is to be discussed regularly with the Director of Undergraduate Studies, starting in the spring semester of the sophomore year.

### COURSES

The minor is composed of five courses, or a minimum of 15 points beyond the language requirement / prerequisite (FREN UN2102), which are distributed as follows.

#### CORE (6 points):

- FREN UN3405 "Read, Think, Write in French" (Formerly titled "Advanced Grammar and Composition")
- One of our two core interdisciplinary, undergraduate survey courses, which cover literature, history, and culture from the Middle Ages to the Present. These include either the history survey (FREN UN3409 Introduction to French and Francophone Studies: History) or the literature survey (FREN UN3410 Introduction to French and Francophone Studies: Literature).

#### INTERDISCIPLINARY ELECTIVES (9 points):

- The remaining three electives can be fulfilled by various French or Francophone literature courses at the 3000 or 4000 level.
- These elective courses can include advanced literature, culture, and history courses offered by the Department of French, as well as our popular "French Thru/Through X" (FREN UN32XX) courses, which reinforce advanced French language proficiency through various cultural themes (including Current Events, Paris, Pop Culture, the Visual Arts, and so on).

- Students are encouraged to study abroad at Reid Hall. Relevant courses taken at Reid Hall or at a French partner institution may count towards the major.
- Though students should prioritize classes taught in French and in the Department of French, courses with significant coverage of the French and Francophone world in other departments may also be counted towards the minor with DUS approval.
- Although students should prioritize classes taught in the Department of French at Columbia, some French courses at Barnard College may be taken with the approval of the Director of Undergraduate Studies.

### CURRICULUM MAP:

- Students are encouraged to first complete FREN UN3405, to prepare themselves for other, more advanced university courses in French. One possible curriculum map is thus to take FREN UN3405, then one core course (either the literature or history survey courses), before completing the three required elective courses. However, additional core and elective courses can ultimately be taken in any order or concurrently. Students may also opt to take the remaining core course for an elective credit (i.e., to take both the literature and history survey courses, and to count one towards the minor requirement and one towards an elective credit).
- Elective credits can also be completed while studying abroad, either at the Columbia Undergraduate program at Reid Hall in Paris or at partner institutions, such as Sciences Po and a few other qualifying Parisian universities.
- Any elective courses taken at partner institutions will be subject to DUS approval.

### LANGUAGE PROFICIENCY REQUIREMENTS:

- Students could begin completing their minor immediately in their freshman year but should begin a minor no later than their junior year. Upon arrival at Columbia, interested students will need to pass the language proficiency exam to determine whether they need to complete first- and second-year French courses, or whether they can pass directly to FREN UN3405.
- All language prerequisites must be completed before taking FREN UN3405.
- The AP French exam already fulfills the language requirement for Columbia students, so it may not fulfill requirements for the minor.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in French and Francophone Studies

The concentration in French and Francophone Studies requires a minimum of 24 points beyond completion of the language requirement ( FREN UN2102 Intermediate Course II), distributed as follows:

FREN UN3405	Read, Think, Write in French
FREN UN3409	INTRO TO FRENCH # FRANCOPHONE HISTORY
FREN UN3410	Intro French # Francophone Literature
FREN UN3995	SENIOR SEMINAR

The remaining four courses (12 points) are to be chosen from 3000- or 4000- level offerings in French literature, culture, or history.

One of the following advanced language classes can be counted as an elective: French for Diplomats; French Culture, Language and Society through ... (FREN UN324X); Advanced Translation Workshop.

### Major in French

The major in French requires a minimum of 33 points beyond completion of the language requirement (FREN UN2102 Intermediate Course II), distributed as follows:

FREN UN3405	Read, Think, Write in French
FREN UN3333 & FREN UN3334	INTRO TO LITERARY STUDIES I and INTRO TO LITERARY STUDIES II
FREN UN3600	INTRO TO FRENCH CIVILIZATION
FREN UN3995	SENIOR SEMINAR

Select one upper-level course on literature before 1800.

Select one course in area of Francophone literature or culture, i.e., bearing on practices of French outside of France or on internal cultural diversity of France.

The remaining four courses (12 points) are to be chosen from 3000-level offerings in French literature, linguistics, or civilization.

One of the following advanced language classes can be counted as an elective: French for Diplomats; French Culture, Language and Society through...; Advanced Translation Workshop; and The Cultural Workshop.

#### Note the following:

FREN BC3006 Composition and Conversation is not applicable to either the French major or the concentration. Other Barnard French courses may be taken with the approval of the director of undergraduate studies;

Heritage speakers are exempted from FREN UN3405 THIRD-YEAR GRAMMAR # COMP, but must replace the course by taking an advanced elective

The following Columbia French courses are not applicable to the French major or concentration:

FREN UN1101	ELEMENTARY FRENCH I
FREN UN1102	ELEMENTARY FRENCH II
FREN UN1105	ACCELERATED ELEM FRENCH
FREN UN2101	INTERMEDIATE FRENCH I
FREN UN2102	INTERMEDIATE FRENCH II
FREN UN2106	RAPID READING AND TRANSLATION
FREN UN2121	INTERMED CONVERSATN FRENCH I
FREN UN2122	INTERMED CONVERSATN FRENCH II
FREN UN3131	THIRD-YEAR CONVERSATION FR I
FREN UN3132	THIRD-YEAR CONVERSATION FR II

### Concentration in French

The concentration in French requires a minimum of 24 points beyond completion of the language requirement (FREN UN2102 Intermediate Course II), distributed as follows:

FREN UN3405	Read, Think, Write in French
FREN UN3333 & FREN UN3334	INTRO TO LITERARY STUDIES I and INTRO TO LITERARY STUDIES II
FREN UN3600	INTRO TO FRENCH CIVILIZATION

The remaining four courses (12 points) are to be chosen from 3000-level offerings in French literature, linguistics, or civilization.

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## FRENCH AND FRANCOPHONE STUDIES

### THE FRENCH DEPARTMENT:

Department website: <https://french.columbia.edu/>

Office location: 515-521 Philosophy Hall

Office contacts: Julie L. Stevens [js4504@columbia.edu](mailto:js4504@columbia.edu)

Department Chair: Prof. [Emmanuelle Saada](#) [es2593@columbia.edu](mailto:es2593@columbia.edu)

Director of Undergraduate Studies: Prof. [Aubrey Gabel](#), [aag2188@columbia.edu](mailto:aag2188@columbia.edu)

Director of the French Language Program: Dr. [Pascale Hubert-Leibler](#) [ph2028@columbia.edu](mailto:ph2028@columbia.edu)

Undergraduate Administrator: Benita Dace, [byd1@columbia.edu](mailto:byd1@columbia.edu)

## FRENCH AND FRANCOPHONE STUDIES

The undergraduate [Major in French and Francophone Studies](#) and [Minor in French and Francophone Studies](#) give students an overview of French and francophone literature, culture, politics, and societies from the Middle Ages to the present. Students take a series of required courses in which they hone their linguistic skills (primarily with Read, Think, Write in French) before delving into the study of literature, culture, politics and society with Introduction to French and Francophone Studies: History and Introduction to French and Francophone Studies: Literature, and the Senior Seminar in which students refine their understanding of literary analysis, works and methods and are introduced to research in French and francophone studies. Students also take advanced electives on any aspect of French or francophone literature, culture, or history.

The optional Senior Essay, written under the guidance of a faculty member at Columbia or during a student's semester abroad, provides an initiation to scholarly research. It is a requirement to be eligible for departmental honors.

Seeing as a direct experience of contemporary French society is an essential part of the program, students are strongly encouraged to spend a summer, a semester or an academic year at Reid Hall-Columbia University in Paris, where they can take courses that will be credited toward the French major as well as to other majors including Political Sciences, History or Art History. Qualified students may also take courses directly in the French university system.

Please reach out to the [Director of Undergraduate Studies](#) for Majors' and Minors' Worksheets (for French and Francophone Studies), which provide a breakdown of course requirements.

## STUDENT ADVISING

All advising for undergraduate students pursuing a French and Francophone studies major and minor is handled by the Director of Undergraduate Studies. Students with questions regarding language requirements should contact the Director of the French Language Program.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

Entering students are placed, or exempted, on the basis of their College Board Achievement or Advanced Placement scores, or their scores on the placement test taken online: [FRENCH PLACEMENT TEST](#). An SAT score of 780 or a score of 5 on the AP exam satisfies the language requirement. Students with a score of 4 on the AP exam will be placed in Intermediate II, but may attempt to place out by requesting to take an oral exam administered by the Director of the Language Program.

### Barnard College Courses

Many advanced literature and culture courses at Barnard College may fulfill elective credits for the French major or minor at Columbia, pending approval by the Director of Undergraduate Studies. Please note: The Barnard course, [FREN BC1204](#) Intermediate II does not fulfill the undergraduate language requirement.

### Transfer Courses

Transfer students may apply a limited number of qualifying credits from other institutions to elective courses in the French major and minor, pending approval from the Director of Undergraduate Studies. Students should be expected to present syllabi and transcripts for courses at previous institutions.

### Study Abroad

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- Joanna Stalnaker
- Caroline Weber (Barnard)

### Associate Professors



- Thomas Dodman
- Eliza Zingesser

#### Assistant Professors

- Aubrey Gabel

#### Senior Lecturers

- Heidi Holst-Knudsen
- Pascale Hubert-Leibler
- Sophie Queuniet

#### Lecturers

- Alexandra Borer
- Pascale Crépon
- Wesley F. Gunter
- Samuel Skippon
- Eric Matheis
- Laurence Marie

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Students interested in majoring or minoring in French and Francophone Studies should consult the Curriculum Maps, available on the Bulletin and the Department of French website. Students should also meet with the Director of Undergraduate Studies to discuss their degree progress on a semesterly basis.

### Guidance for First-Year Students

Incoming students interested in majoring or minoring in French and Francophone Studies should immediately begin taking courses in French upon their arrival, after having taken the Language Placement Exam to test into the appropriate course level. Some students will need to take additional language courses before beginning courses for the major/minor, and others can proceed directly to major and/or minor requirements. As they continue with their course requirements, students should consult the Curriculum Maps, available on the Bulletin and the Department of French website. After their first year, students should also consult with the Director of Undergraduate Studies on a semesterly basis.

### Guidance for Transfer Students

Transfer students interested in majoring or minoring in French and Francophone Studies should immediately should also consult with the Director of Undergraduate Studies, who will decide which, if any, courses may be afforded transfer credit. Students should have syllabi and course materials on hand, so that the DUS can evaluate possible courses for transfer credits. After this, students majoring or minoring in French and Francophone Studies are encouraged to meet with the DUS to discuss their degree progress on a semesterly basis.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in French and Francophone Studies

For those students who would like to major in French and Francophone studies, please consult our website and the information below. Each student's program of study is to be discussed regularly with the Director of Undergraduate Studies, starting in the spring semester of the sophomore year.

#### COURSES

A minimum of 30 points beyond completion of the language requirement (FREN UN2102), which should be distributed as follows:

#### CORE (12 points):

FREN UN3405	Read, Think, Write in French (Formerly Titled, "Advanced Grammar and Composition")
FREN UN3409	INTRO TO FRENCH # FRANCOPHONE HISTORY
FREN UN3410	Intro French # Francophone Literature
FREN UN3995	SENIOR SEMINAR

#### ELECTIVES (18 points, or 15 points in case of a senior essay):

Six elective courses in French or francophone literature and culture at the 3000 or 4000 level.

These elective courses can include advanced literature, culture, and history courses offered by the Department of French, as well as our popular "French Thru/Through X" courses, which reinforce advanced French language proficiency through various cultural themes (including Current Events, Paris, Pop Culture, the Visual Arts, and so on).

These elective courses should include a minimum of one course that covers the Early-Modern period (before 1800) and a maximum of two "French Thru/Through X" classes (FREN UN32XX).

Students are encouraged to study abroad at Reid Hall. Relevant courses taken at Reid Hall or at a French partner institution may count towards the major.

Though students should prioritize classes taught in French and in the Department of French, courses with significant coverage of the French and Francophone world in other departments may also be counted towards the major with DUS approval.

Some French Barnard College courses may be taken with the approval of the Director of Undergraduate Studies.

### CURRICULUM MAP:

- Students are encouraged to first complete FREN UN3405, to prepare themselves for other, more advanced university courses in French. One possible curriculum map is thus to take FREN UN3405, then the core literature and history survey courses (in any order or concurrently), before completing the three required elective courses. However, additional core and elective courses can ultimately be taken in any order or concurrently.
- Elective credits can also be completed while studying abroad, either at the Columbia Undergraduate program at Reid Hall in Paris or at partner institutions, such as Sciences Po and a few other qualifying Parisian universities.
- Any elective courses taken at partner institutions will be subject to DUS approval.

## Minor in French and Francophone Studies

For those students who would like to minor in French and francophone studies, please consult our website and the information below. Each student's program of study is to be discussed regularly with the Director of Undergraduate Studies, starting in the spring semester of the sophomore year.

### COURSES

The minor is composed of five courses, or a minimum of 15 points beyond the language requirement / prerequisite (FREN UN2102), which are distributed as follows.

#### CORE (6 points):

- FREN UN3405 "Read, Think, Write in French" (Formerly titled "Advanced Grammar and Composition")
- One of our two core interdisciplinary, undergraduate survey courses, which cover literature, history, and culture from the Middle Ages to the Present. These include either the history survey (FREN UN3409 Introduction to French and Francophone Studies: History) or the literature survey (FREN UN3410 Introduction to French and Francophone Studies: Literature).

#### INTERDISCIPLINARY ELECTIVES (9 points):

- The remaining three electives can be fulfilled by various French or Francophone literature courses at the 3000 or 4000 level.
- These elective courses can include advanced literature, culture, and history courses offered by the Department of French, as well as our popular "French Thru/Through X" (FREN UN32XX) courses, which reinforce advanced French language proficiency through various cultural themes (including Current Events, Paris, Pop Culture, the Visual Arts, and so on).
- Students are encouraged to study abroad at Reid Hall. Relevant courses taken at Reid Hall or at a French partner institution may count towards the major.
- Though students should prioritize classes taught in French and in the Department of French, courses with significant coverage of the French and Francophone world in other departments may also be counted towards the minor with DUS approval.
- Although students should prioritize classes taught in the Department of French at Columbia, some French courses at Barnard College may be taken with the approval of the Director of Undergraduate Studies.

#### CURRICULUM MAP:

- Students are encouraged to first complete FREN UN3405, to prepare themselves for other, more advanced university courses in French. One possible curriculum map is thus to take FREN UN3405, then one core course (either the literature or history survey courses), before completing the three required elective courses. However, additional core and elective courses can ultimately be taken in any order or concurrently. Students may also opt to take the remaining core course for an elective credit (i.e., to take both the literature and history survey courses, and to count one towards the minor requirement and one towards an elective credit).
- Elective credits can also be completed while studying abroad, either at the Columbia Undergraduate program at Reid Hall in Paris or at partner institutions, such as Sciences Po and a few other qualifying Parisian universities.
- Any elective courses taken at partner institutions will be subject to DUS approval.

#### LANGUAGE PROFICIENCY REQUIREMENTS:

- Students could begin completing their minor immediately in their freshman year but should begin a minor no later than their junior year. Upon arrival at Columbia, interested students will need to pass the language

proficiency exam to determine whether they need to complete first- and second-year French courses, or whether they can pass directly to FREN UN3405.

- All language prerequisites must be completed before taking FREN UN3405.
- The AP French exam already fulfills the language requirement for Columbia students, so it may not fulfill requirements for the minor.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in French and Francophone Studies

The concentration in French and Francophone Studies requires a minimum of 24 points beyond completion of the language requirement (FREN UN2102 Intermediate Course II), distributed as follows:

FREN UN3405	Read, Think, Write in French
FREN UN3409	INTRO TO FRENCH # FRANCOPHONE HISTORY
FREN UN3410	Intro French # Francophone Literature
FREN UN3995	SENIOR SEMINAR

The remaining four courses (12 points) are to be chosen from 3000- or 4000- level offerings in French literature, culture, or history.

One of the following advanced language classes can be counted as an elective: French for Diplomats; French Culture, Language and Society through ... (FREN UN324X); Advanced Translation Workshop.

### Major in French

The major in French requires a minimum of 33 points beyond completion of the language requirement (FREN UN2102 Intermediate Course II), distributed as follows:

FREN UN3405	Read, Think, Write in French
FREN UN3333 & FREN UN3334	INTRO TO LITERARY STUDIES I and INTRO TO LITERARY STUDIES II
FREN UN3600	INTRO TO FRENCH CIVILIZATION
FREN UN3995	SENIOR SEMINAR

Select one upper-level course on literature before 1800.

Select one course in area of Francophone literature or culture, i.e., bearing on practices of French outside of France or on internal cultural diversity of France.

The remaining four courses (12 points) are to be chosen from 3000-level offerings in French literature, linguistics, or civilization.

One of the following advanced language classes can be counted as an elective: French for Diplomats; French Culture, Language and Society through...; Advanced Translation Workshop; and The Cultural Workshop.

#### Note the following:

FREN BC3006 Composition and Conversation is not applicable to either the French major or the concentration. Other Barnard French courses may be taken with the approval of the director of undergraduate studies;

Heritage speakers are exempted from FREN UN3405 THIRD-YEAR GRAMMAR # COMP, but must replace the course by taking an advanced elective

The following Columbia French courses are not applicable to the French major or concentration:

FREN UN1101	ELEMENTARY FRENCH I
FREN UN1102	ELEMENTARY FRENCH II
FREN UN1105	ACCELERATED ELEM FRENCH
FREN UN2101	INTERMEDIATE FRENCH I
FREN UN2102	INTERMEDIATE FRENCH II
FREN UN2106	RAPID READING AND TRANSLATION
FREN UN2121	INTERMED CONVERSATN FRENCH I
FREN UN2122	INTERMED CONVERSATN FRENCH II
FREN UN3131	THIRD-YEAR CONVERSATION FR I
FREN UN3132	THIRD-YEAR CONVERSATION FR II

### Concentration in French

The concentration in French requires a minimum of 24 points beyond completion of the language requirement (FREN UN2102 Intermediate Course II), distributed as follows:

FREN UN3405	Read, Think, Write in French
FREN UN3333 & FREN UN3334	INTRO TO LITERARY STUDIES I and INTRO TO LITERARY STUDIES II
FREN UN3600	INTRO TO FRENCH CIVILIZATION

The remaining four courses (12 points) are to be chosen from 3000-level offerings in French literature, linguistics, or civilization.

One of the following advanced language classes can be counted as an elective: French for Diplomats; French Culture, Language and Society through...; Advanced Translation Workshop; and The Cultural Workshop

# GERMAN LITERATURE AND CULTURAL HISTORY

## GERMANIC LANGUAGES

Department website: <https://germanic.columbia.edu/>

Office location: 414 Hamilton Hall

Office contact: 212-854-3202, [germanic@columbia.edu](mailto:germanic@columbia.edu)

Director of Undergraduate Studies: Professor Annie Pfeifer,  
409 Hamilton Hall, [ap750@columbia.edu](mailto:ap750@columbia.edu), 212-854-8986

Director of the Language Program: Jutta Schmiere-Heller,  
[js2331@columbia.edu](mailto:js2331@columbia.edu), 212-854-5381

Director of Academic Administration and Finance: Kerstin  
Hofmann, 415 Hamilton Hall, [kh3168@columbia.edu](mailto:kh3168@columbia.edu),  
212-854-1624

## THE DEPARTMENT OF GERMANIC LANGUAGES

The Department of Germanic Languages and Literatures is considered one of the very best in the country. Many of the faculty specialize in the study of German literature and culture from 1700 to the present. German majors acquire proficiency in examining literary, philosophical, and historical texts in the original, as well as critical understanding of modern German culture and society. Particular attention is given to German-speaking traditions within larger European and global contexts. Courses taught in translation build on Columbia's Core Curriculum, thereby allowing students to enroll in upper-level seminars before completing the language requirement.

All classes are taught as part of a living culture. Students have ample opportunities to study abroad, to work with visiting scholars, and to take part in the cultural programs at Deutsches Haus. In addition, the department encourages internships with German firms, museums, and government offices. This hands-on experience immerses students in both language and culture, preparing them for graduate study and professional careers.

Upon graduation, German majors compete successfully for Fulbright or DAAD scholarships for research in Germany or Austria beyond the B.A. degree. Our graduating seniors are highly qualified to pursue graduate studies in the humanities and social sciences, as well as professional careers. Former majors and concentrators have gone on to careers in teaching, law, journalism, banking and consulting, international affairs, and communications.

German literature and culture courses are taught as seminars integrating philosophical and social questions. Topics include romanticism, revolution, and national identity; German intellectual history; minority literatures; Weimar cinema; German-Jewish culture and modernity; the Holocaust and memory; and the history and culture of Berlin. Classes are small, with enrollment ranging from 5 to 15 students.

The department regularly offers courses in German literature and culture in English for students who do not study the German language. The department also participates in Columbia's excellent program in comparative literature and society.

## THE YIDDISH STUDIES PROGRAM

The Yiddish Studies Program at Columbia University, the global leader in Yiddish scholarship and teaching, focuses on the experiences and cultural efflorescence of Ashkenazic Jewry over a thousand years and five continents. It is a perfect exemplar of Columbia's interests in global and transnational study, weaving together language, literature, and culture in a way that echoes the best of Columbia's justly famed humanities programs.

The program in Yiddish studies offers both the undergraduate Major, Concentration and three new Minor tracks, in addition to graduate studies leading to the Ph.D. In both the undergraduate and graduate program, emphasis is placed not merely on acquiring linguistic proficiency and textual study, but also viewing Yiddish literature in a larger cultural and interdisciplinary context. The graduate program, the only degree-granting Yiddish Studies Program in the United States, is considered one of the world's most important, with its graduates holding many of the major university positions in the field.

Students of Yiddish have ample opportunities to enhance their studies through a number of fellowships. The Naomi Fellowship, a fully-subsidized Yiddish Study Abroad program allows students to explore Yiddish culture and history in Israel and Poland. The Irene Kronhill Pletka YIVO Fellowship enables students to expand on their archival research skills in New York. Upon graduation, our majors compete successfully for Fulbright and other prestigious scholarships, and are highly qualified to pursue careers in humanities, social sciences, as well as artistic and professional careers.

Students work with faculty in Germanic languages, Jewish studies, history, and Slavic studies to broaden their understanding of the literature, language, and culture of Eastern European Jewry. The Yiddish Studies Program is also closely affiliated with the Institute for Israel and Jewish Studies, which offers diverse programming and other fellowship opportunities. Classes are small, and instruction is individualized and carefully directed to ensure that students gain both a thorough general grounding and are able to



pursue their own particular interests in a wide-spanning field. The program also offers classes taught in translation for students who do not study Yiddish. The Yiddish programming, such as lectures, monthly conversation hours, Meet a Yiddish Celebrity series, as well as the activities of the Yiddish Club of Columbia's Barnard/Hillel allows students to explore Yiddish culture outside the classroom.

## The German Language Placement Exam

The German Language Placement Exam is offered every semester to students who already speak the language in order to determine their language level (Elementary, Intermediate, Advanced) and the right level language course. Visit our [website for details](#).

## The German Language Program

First- and second-year German language courses emphasize spoken and written communication, and provide a basic introduction to German culture. Goals include mastery of the structure of the language and enough cultural understanding to interact comfortably with native speakers.

After successfully completing the elementary German sequence, [GERM UN1101](#) ELEMENTARY GERMAN I-[GERM UN1102](#), students are able to provide information about themselves, their interests, and daily activities. They can participate in simple conversations, read edited texts, and understand the main ideas of authentic texts. By the end of [GERM UN1102](#), students are able to write descriptions, comparisons, and creative stories, and to discuss general information about the German-speaking countries.

The intermediate German sequence, [GERM UN2101](#) INTERMEDIATE GERMAN I-[GERM UN2102](#) INTERMEDIATE GERMAN II, increases the emphasis on reading and written communication skills, expands grammatical mastery, and focuses on German culture and literary texts. Students read short stories, a German drama, and increasingly complex texts. Regular exposure to video, recordings, the World Wide Web, and art exhibits heightens the cultural dimensions of the third and fourth semesters. Students create portfolios comprised of written and spoken work.

Upon completion of the second-year sequence, students are prepared to enter advanced courses in German language, culture, and literature at Columbia and/or at the Berlin Consortium for German Studies in Berlin. Advanced-level courses focus on more sophisticated use of the language structure and composition ([GERM UN3001](#) ADVANCED GERMAN I-[GERM UN3002](#) ADVANCED GERMAN II); on specific cultural areas; and on literary, historical, and philosophical areas in literature-oriented courses ([GERM UN3333](#) INTRO TO GERMAN LIT (GERMAN)).

## In Fulfillment of the Language Requirement in German

Students beginning the study of German at Columbia must take four terms of the following two-year sequence:

GERM UN1101	ELEMENTARY GERMAN I
GERM UN1102	ELEMENTARY GERMAN II
GERM UN2101	INTERMEDIATE GERMAN I
GERM UN2102	INTERMEDIATE GERMAN II

Entering students are placed, or exempted, on the basis of their College Board Achievement or Advanced Placement scores, or their scores on the placement test administered by the departmental language director. Students who need to take [GERM UN1101](#) ELEMENTARY GERMAN I-[GERM UN1102](#) ELEMENTARY GERMAN II may take [GERM UN1125](#) Accelerated Elementary German I & II as preparation for [GERM UN2101](#) INTERMEDIATE GERMAN I.

## STUDENT ADVISING

### Consulting Advisers

**Director of Undergraduate Studies:** Professor Annie Pfeifer, 409 Hamilton Hall, [ap750@columbia.edu](mailto:ap750@columbia.edu), 212-854-8986

**Director of the German Language Program:** Jutta Schmiere-Heller, [js2331@columbia.edu](mailto:js2331@columbia.edu), 212-854-5381

**Director of the Yiddish Studies Program:** Professor Jeremy Dauber, [jad213@columbia.edu](mailto:jad213@columbia.edu)

**Director of the Yiddish Language Program:** Agnieszka Legutko, [abl209@columbia.edu](mailto:abl209@columbia.edu), 212-854-3202

Students can contact the DUS with advising questions. The Department of Germanic Languages is represented at the Academic Resources Fair prior to the beginning of the fall semester and hosts fall and spring open houses for interested students.

## Enrolling in Classes

The German Language Placement Exam is offered throughout the year to students who already speak the language in order to determine their language level (Elementary, Intermediate, Advanced) and the right level language course. Visit our [website for details](#).

## Preparing for Graduate Study

Upon graduation, German majors compete successfully for Fulbright or DAAD scholarships for research in Germany or Austria beyond the B.A. degree. Graduating seniors are highly qualified to pursue graduate studies in the humanities and social sciences, as well as professional careers. Former majors and minors have gone on to pursue graduate degrees in law, journalism, banking and consulting, international affairs, education, and communications.



In addition to applying for Fulbright or DAAD scholarships, students considering graduate work may also wish to write a senior thesis or develop an independent research project with a faculty mentor.

Students interested in pursuing a PhD or MA in the field of Germanic Languages should therefore speak with the Director of Undergraduate Studies and other faculty members no later than the beginning of the fall semester before applying (i.e., typically the fall of the senior year).

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Coursework in fulfillment of a major or minor [or special program or concentration] must be taken at Columbia University unless explicitly noted here and/or expressly permitted by the Director of Undergraduate Studies of the program. Exceptions or substitutions permitted by the Director of Undergraduate Studies should be confirmed in writing by email to the student.

### Advanced Placement

The department grants 3 credits for a score of 5 on the AP German Language exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion of a 3000-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in German. Courses taught in English may not be used for language AP credit. The department grants 0 credits for a score of 4 on the AP German Language exam, but the foreign language requirement is satisfied.

### Barnard College Courses

The German programs at Columbia and Barnard work together closely. Students may take courses at Barnard to count towards the Major or Minor with the approval of the DUS. Students at Barnard should speak to their advisor at Barnard regarding Columbia courses as the departments are distinct and the requirements for their respective majors are different.

### Transfer Courses

When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit (e.g., to confirm that the courses will count toward the 124 points of credit that every student is required to complete for the B.A. degree). Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major or minor [or special program or concentration].

## Study Abroad Courses

Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Undergraduate Global Engagement and taught by Columbia instructors) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus. If they are not explicitly listed by the department as fulfilling requirements in the major or minor [or special program or concentration], the DUS will need to confirm that they can be used toward requirements in the major/minor.

Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia, and are subject to the same policies as other transfer courses. There will be a limit on the number of courses taken abroad that can be applied to the major/minor, and they must be approved by the DUS."

### FUBiS Summer Language Program in Berlin

The department offers a language-intensive German program over the summer at the Freie Universität Berlin (FUBiS). Financial support is provided primarily by the Germanistic Society of America and the Max Kade Foundation, with some help from Barnard College, Columbia College, General Studies, Columbia Engineering, and the Department of Germanic Languages.

The FUBiS scholarship is for students who have completed at least two semesters or equivalent of German language instruction in our German language program by May of the year they are applying. Scholarships are awarded based on academic achievement and German language aptitude. Each scholarship includes a travel grant, tuition for a six-week/one month-long German language course, and lodging at the summer program of the FU University. For additional information on FUBIS, please contact our department and visit <https://www.fubis.org>.

### Berlin Consortium for German Studies

The Berlin Consortium for German Studies (BCGS) provides students with a study abroad program, administered by Columbia University, which includes students from other consortium member schools (Princeton, Yale, University of Pennsylvania, Johns Hopkins, and the University of Chicago). You can study a semester or a full academic year. We have the original immersion program (4 semesters + of German required) and a program for students with less German. Please visit the Global Engagement page and click on the tab "Calendars and Pathways" to see all the options available to you: <https://global.undergrad.columbia.edu/program/bcgs>

For additional information on the Berlin Consortium, see the [Study Abroad—Sponsored Programs](#) section in this Bulletin, visit the [Center for Undergraduate Global Engagement](#),

or consult the program's office at [uge@columbia.edu](mailto:uge@columbia.edu) ([iuge@columbia.edu](mailto:iuge@columbia.edu)).

## Summer Courses

Summer courses at Columbia are offered through the School of Professional Studies.

Courses taken in a Summer Term may be used toward requirements for the major/minor only as articulated in department/institute/center guidelines or by permission of the Director(s) of Undergraduate Studies. More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin.

## CORE CURRICULUM CONNECTIONS

Faculty and graduate instructors from the Department of Germanic Languages regularly teach in the Core, usually Literature Humanities and Contemporary Civilization.

The Department of Germanic Languages also offers several courses that build on the coursework in Contemporary Civilization including “Marx, Nietzsche, Freud” (GERM4670GU) and “Aesthetic Theory - Frankfurt School” (CLGR 4210GU) and “Aesthetics and Philosophy of History” (CLGR4250GU).

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

Beyond the wide-ranging language instruction, the department offers courses that teach students critical theory and interdisciplinary thinking that are applicable to many areas of knowledge. Courses like “Literary Theory: Nietzsche-Agamben” (CLGR4130GU) introduce students to theoretical and interdisciplinary methods. “Advanced Topics” (UN3991) introduces students to contemporary topics and scholarly debates and is based on current research interests of faculty members. Students are also given an opportunity to develop an independent research project.

Students should consult with the Director of Undergraduate Studies. Students can register for Directed Readings with a faculty member.

### Senior Thesis Coursework and Requirements

A senior thesis is not required for the major. Students interested in a senior thesis or research project may do so through independent study with a faculty member over one or two semesters. Students should approach a faculty member at the end of their junior or beginning of their senior year.

## Undergraduate Research Outside of Courses

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Normally no more than 10% of graduating majors receive departmental honors in a given academic year. For the requirements for departmental honors, see the DUS.

### Academic Prizes

All prize recipients are announced at the end of the spring semester of each academic year.

The German Academic Achievement Award is awarded to the top students in German language classes. The award is made by the department together with the support of the Consulate General of the Federal Republic of Germany. The prize consists of a certificate provided by the Consulate and a small gift provided by the department.

The Deutscher Verein Prize is a cash prize given annually to a single Columbia College junior or senior who submits the best essay on a prescribed topic in German Literature or culture. Essays can be in English or in German.

The Deutsches Haus Prize for Distinguished Undergraduate Achievement is given to a graduating German major or minor who has demonstrated excellence and promise in the field of German Studies.

## OTHER IMPORTANT INFORMATION

### Deutsches Haus

Deutsches Haus, 420 West 116th Street, provides a center for German cultural activities on the Columbia campus. It sponsors lectures, film series, and informal gatherings that enrich the academic programs of the department. Frequent events throughout the fall and spring terms offer students opportunities to engage with current issues in the field and practice their language skills. Twice a month during the semester, the department offers “Kaffeestunde,” an open German conversation hour for speakers at all proficiency levels. The department also holds monthly Dutch and Yiddish Conversation hours.

### Grading

Courses in which a grade of D has been received do not count toward the major or concentration requirements.

# PROFESSORS

Mark Anderson  
 Stefan Andriopoulos  
 Claudia Breger (Chair)  
 Jeremy Dauber  
 Andreas Huyssen (emeritus)  
 Harro Müller (emeritus)  
 Dorothea von Mücke  
 Annie Pfeifer  
 Oliver Simons

# VISITING PROFESSORS SPRING 2025:

Maha El Hissy (Visiting Max Kade Professor)  
 Lieke van Deinsen (Queen Wilhelmina Visiting Assistant Professor)

# SENIOR LECTURERS

Wijnie de Groot (Dutch)  
 Agnieszka Legutko (Yiddish)  
 Jutta Schmiere-Heller (German)

# LECTURERS

Xuxu Song (German)  
 Simona Vaidean (German)

# GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

## Program Planning for all Students

Students who entered Columbia (as first-year students or as transfer students) in or after Fall 2024 may select from a curriculum of majors and minors. The requirements for the Bachelor of Arts degree, and role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Students who entered Columbia in or before the 2023-2024 academic year may select from a curriculum of majors and minors and concentrations. The requirements for the Bachelor of Arts degree, and the role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

## Course Numbering Structure

The 1000 and 2000-level courses are typically language classes including Elementary, Intermediate, and

Conversation. At the 3000/4000-level, courses are either advanced language classes and literature/culture classes. While many 3000/4000 courses are taught in English, others are taught in the target language and have language prerequisites or requirements.

## Guidance for First-Year Students

Students who have had prior German instruction are required to take the placement test, which is offered every semester. Students may enroll in 3000 and 4000 level literature and culture courses taught in English before or without completing the language requirements.

## Guidance for Transfer Students

When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit. Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major or minor [or special program or concentration].

# UNDERGRADUATE PROGRAMS OF STUDY

## Major in German Literature and Cultural History

The goal of the major is to provide students with reasonable proficiency in reading a variety of literary, philosophical, and historical texts in the original and, through this training, to facilitate a critical understanding of modern German-speaking cultures and societies. Students should plan their program of study with the director of undergraduate studies as early as possible. Competence in a second foreign language is strongly recommended, especially for those students planning to attend graduate school.

The major in German literature and cultural history requires a minimum of 30 points, distributed as follows:

GERM UN2102	INTERMEDIATE GERMAN II
GERM UN3001	ADVANCED GERMAN I (can be waived and replaced by another 3000 level class upon consultation with the DUS)
or GERM UN3002	ADVANCED GERMAN II
GERM UN3333	INTRO TO GERMAN LIT (GERMAN)
Select two of the following survey courses in German literature and culture (at least one of these must focus on pre-20th-century cultural history):	
GERM UN3442	Literature in the 18th and 19th Centuries
GERM UN3443	SURVEY OF GERMAN LIT:19C (GER)

GERM UN3444	SURVEY OF GERMAN LIT:20C (GER)
GERM UN3445	German Literature After 1945 [In German]
One course in German intellectual history	
GERM UN3991	Advanced Topics in German Literature
The remaining courses to be chosen from the 3000- or 4000-level offerings in German and Comparative Literature—German in consultation with the Director of Undergraduate Studies.	

Intermediate German II (GERM UN 2102) can be counted toward the required 30 points, but the total of points from language courses should not be higher than six points.

### Senior Thesis

A senior thesis is not required for the major. Students interested in a senior thesis or research project may do so through independent study with a faculty member over one or two semesters.

## Major in Yiddish Studies

The program is designed as a combination of language and content courses. First- and second-year Yiddish language courses emphasize spoken and written communication, and provide a basic introduction to Eastern European Jewish culture. Goals include mastery of the structure of the language and enough cultural understanding to interact comfortably with native speakers.

After second-year Yiddish language courses are completed, students should feel sufficiently comfortable to begin to work with Yiddish literature in the original. Upper-level undergraduate/graduate courses are designed to accommodate students with a range of Yiddish language experience, and intensive language summer study abroad, such as the Naomi Prawer Kadar International Yiddish Summer Program (the Yiddish Studies program at Columbia offers the fully-subsidized Naomi Fellowship for students of Yiddish), or other academic summer programs, is also encouraged for improvement in language acquisition and comprehension.

The goal is to provide students with reasonable proficiency in reading a variety of literary, philosophical, and historical texts in the original and, through this training, to provide them with a critical understanding of Yiddish-speaking culture and society.

The second pillar of the Yiddish program is an intimate exposure to the literature and culture of the Yiddish-speaking Jewry. That exposure is achieved through several courses in Yiddish literature, which, although they may cover a variety of subjects or proceed from a number of methodological

and disciplinary orientations, share a rigorous commitment to analyzing and experiencing that literature within an overarching historical and cultural framework.

These courses in Yiddish literature, culture and Jewish history will provide students with a solid interdisciplinary foundation in Yiddish studies. Inevitably and necessary, these courses, whether taught in Yiddish, English, or in a combination of the Yiddish text and English language instruction – cover the sweep of Yiddish literary history from the early modern period to today.

Students should plan their program of study with the director of undergraduate studies as early as possible. There is a prerequisite of two years of Yiddish, or equivalent to be demonstrated through testing.

The Major in Yiddish Studies requires a minimum of 30 points, distributed as follows:

1. **Two courses of advanced language study** (6 points); YIDD UN3101, YIDD UN3102
2. **Three courses in Yiddish literature** (9 points); e.g. YIDD UN3500, YIDD GU4420
3. **At least one course related to a senior thesis** (3 points);
4. **Four related courses, at least one of which is in medieval or modern Jewish history** (12 points); e.g. HIST UN4604, YIDD GU4113.

A senior thesis **is required** for the Major in Yiddish Studies. Students interested in a senior thesis or research project may do so through independent study with a faculty member over one or two semesters. Students must conduct original research, some of which must take place in the Yiddish language, and are required to submit a culminating paper, of no less than 35 pages.

Elective courses:

Elective courses can be taken at Columbia as well as at affiliated institutions such as the Jewish Theological Seminary, Barnard College, New York University, etc. Columbia's arrangements with the joint degree appointing program at JTS, i.e. JTS and GS Joint program with List College, offers students exposure to a wide variety of courses on Yiddish and Yiddish-related topics taught by experts in the field of Yiddish and comparative Jewish literature.

Thanks to the consortial arrangements with other universities in the New York area (Barnard, NYU, Yale, Penn, etc.) students both in Columbia College and General Studies, can take courses at these institutions for degree credit, which allows for student exposure to experts in twentieth-century Soviet Yiddish literature, Yiddish women's writing, Yiddish literature in Israel, and much more (Profs. Gennady Estraiikh, Kathryn Hellerstein, and Hannan Hever). These arrangements allow students to have, if they so choose, an even broader intellectual experience than the already broad interdisciplinary opportunities available to them via



the courses offered by the faculty on the Interdisciplinary Committee on Yiddish at Columbia.

Language courses need to be taken at Columbia.

Honors options:

Departmental Honors in Yiddish Studies can be granted to a total of 10% of the students graduating with the Major in Yiddish Studies in a given year across both Columbia College and General Studies.

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## Minor in German

**The total number of courses required for the minor is 5 courses (= minimum of 15 points).**

Pre-requisites:

The minor requires at least 4 semesters of German language (= through Intermediate II), or equivalent proficiency determined by placement test. However, students can count the second semester of intermediate German (GERM UN2102) towards their five courses and begin other coursework (in translation) before completing the four semesters of language.

Language/Literature and Culture distribution:

A maximum of 6 points can be fulfilled with upper-level language courses (Intermediate II and/or Advanced). The remaining credits (= at least three courses) need to be 3000/4000-level literature/culture courses.

### Required Course:

#### **GERM UN3333 (Introduction to German Literature)**

Course Description: Prerequisites: GERM UN2102 or the equivalent. Examines short literary texts and various methodological approaches to interpreting such texts in order to establish a basic familiarity with the study of German literature and culture.

### Recommended Electives:

1. One of the period survey courses in German literature and culture
  - a. GERM UN3442 Survey of German Literature: 18th-Century
  - b. GERM UN3443 Survey of German Literature: 19th-Century
  - c. GERM UN3444: Survey of German Literature: 20th-Century
2. GERM UN3991: Advanced Topics in German Literature

### Other electives:

The remaining courses can be chosen, in consultation with the Director of Undergraduate Studies, from the department's other 3000- or 4000-level offerings in German and Comparative Literature-German (taught in German or English).

### Sequencing:

## Minor in German Thought and Critical Theory

The minor enables students to gain a deeper knowledge of a critical intellectual and philosophical tradition, which was first established by Kant and then adapted by Marx, Nietzsche, Freud, Arendt, and the Frankfurt School. In addition to historicizing the contexts that allowed for the emergence of this mode of critical thinking, the minor also trains students to extend this critical awareness to new but equally contingent circumstances that we encounter in our global presents and futures. The minor draws on and strengthens crucial core competencies of a Columbia undergraduate education, especially critical thinking, written communication, global awareness, oral communication, and research. Students expand their knowledge of critical arguments by Kant, Marx, Nietzsche, and Arendt whose texts they also read as part of Contemporary Civilization. Offered in cooperation with the Philosophy Departments at Barnard and Columbia, this interdisciplinary minor allows students to explore various dimensions of critical theory including literary theory, continental philosophy, aesthetics, and political theory.

The total number of courses required for the minor is 5 courses (minimum of 15 points). Prerequisites: None. The second semester of Contemporary Civilization is recommended but not required. There is no German language requirement as part of the minor. Classes will be taught in English.

Requirements: Students have to take two of the following three courses:

### **1. CLGR4210GU: Aesthetic Theory - Frankfurt School**

Critical theory was the central practice of the Frankfurt School. Founded in Frankfurt in 1923 and later based at Columbia University, this interdisciplinary institute influenced fields like sociology, political science, film, cultural studies, media theory, and comparative literature. The course begins by examining the genealogy of the Frankfurt School in Marxism and its critique of fascism and traces its afterlife in aesthetic theory, deconstruction, and gender studies, as well as the specter of "Cultural Marxism" recently floating around right-wing circles. We read texts by key figures of the Frankfurt School such as Theodor W. Adorno, Max Horkheimer, Herbert Marcuse and Jürgen



Habermas as well as works by adjacent figures like Walter Benjamin, Hannah Arendt, and Siegfried Kracauer.

## 2. GERM4670GU: Marx, Nietzsche, Freud

Along with Darwin, Marx, Nietzsche and Freud have radically altered what and how we know; about humans, language, history, religion, things and life. Because their thought has shaped our sense of ourselves so fundamentally, Michel Foucault has referred to these three authors as discourse-founders. As such they will be treated in this class. Special attention will be paid to the affinities and competition among their approaches. Secondary sources will be subject to short presentations (in English) of those students capable of reading German.

## 3. CLGR4250GU: Aesthetics and Philosophy of History (in English)

This course offers an introduction to German intellectual history by focusing on the key texts from the 18th and 19th century concerned with the philosophy of art and the philosophy of history. Instead of providing a general survey, this thematic focus that isolates the relatively new philosophical subspecialties allows for a careful tracing of a number of key problematics. The texts chosen for discussion in many cases are engaged in lively exchanges and controversies. Readings are apportioned such that students can be expected to fully familiarize themselves with the arguments of these texts and inhabit them.

Electives: In addition, students take elective courses to be chosen from the following list of classes. They can also petition for other elective courses to count toward the minor, dependent on approval by the DUS of German.

Approved electives:

PHIL UN 2301 History of Philosophy: Kant-Nietzsche

PHIL UN 3251 Kant

PHIL UN 3264 19th Century Philosophy: Hegel

PHIL UN 3351 Phenomenology & Existentialism

CLGR GU4215 Spirit and Ghosts from Kant to Marx

CLGR GU 4420 Walter Benjamin

CLGR GU 4130 Literary Theory: Nietzsche-Agamben

CLGR GU 4251 Kant with Arendt (NEW COURSE  
PENDING APPROVAL)

## Minor in Yiddish Studies

### 3 Separate Minor Tracks Available:

The Yiddish minor is designed as a combination of five courses with three separate tracks:

5 courses (= minimum of 15 points)

1) Minor in Yiddish Language: 5 language courses;

2) Minor in Yiddish Language and Literature: a combination of language and content courses;

3) Minor in Yiddish Culture: 5 content courses.

### Requirements:

#### 1. Courses required for Minor in Yiddish Language:

##### *Requirement: Five Language Courses*

YIDD 1101 UN Elementary Yiddish I 4 points

YIDD 1102 UN Elementary Yiddish II 4 points

This year-long course offers an introduction to the language that has been spoken by the Ashkenazi Jews for more than a millennium, and an opportunity to discover a fabulous world of Yiddish literature, language and culture in a fun way. Using games, new media, and music, we will learn how to speak, read, listen and write in a language that is considered one of the richest languages in the world (in some aspects of vocabulary). We will also venture outside the classroom to explore the Yiddish world today: through field trips to Yiddish theater, Yiddish-speaking neighborhoods, Yiddish organizations, such as YIVO or Yiddish farm, and so on. We will also have Yiddish-speaking guests and do a few digital projects. At the end of the two-semester course, you will be able to converse in Yiddish on a variety of everyday topics and read most Yiddish literary and non-literary texts. Welcome to Yiddishland!

YIDD 2101 UN Intermediate Yiddish I 4 points

YIDD 2102 UN Intermediate Yiddish II 4 points

Prerequisites: YIDD UN1101-UN1102 or the instructor's permission.

Prerequisites: YIDD UN1101-UN1102 or the instructor's permission.

This year-long course is a continuation of Elementary Yiddish II. As part of the New Media in Jewish Studies Collaborative, this class will be using new media in order to explore and research the fabulous world of Yiddish literature, language, and culture, and to engage in project-oriented activities that will result in creating lasting multi-media online presentations. In addition to expanding the command of the language that has been spoken by the Ashkenazi Jews for more than a millennium, i.e. focusing on developing speaking, reading, writing and listening skills, and on the acquisition of more advanced grammatical concepts, students will also get some video and film editing training, and tutorials on archival research. The class will continue to read works of Yiddish literature in the original and will venture outside of the classroom to explore the Yiddish world today: through exciting field trips to Yiddish theater, Yiddish-

speaking neighborhoods, YIVO, Yiddish Farm, and so on. And we will also have the Yiddish native-speaker guest series. Welcome back to Yiddishland!

YIDD 3101 UN Advanced Yiddish 3 points

This course focuses predominantly on developing reading comprehension skills, as well as on listening, writing, speaking, and some more advanced grammar. It explores literary and scholarly texts examining the modern Jewish experience in the context of the twentieth-century history and culture of the Ashkenazi Jews. Supplementary texts will be selected based on students' interests and may include historical pedagogical materials, past and present newspaper articles, polemic, poetry, historical and scholarly articles. We will also venture outside the classroom to explore the Yiddish world today: through field trips to Yiddish theater, Yiddish-speaking neighborhoods, Yiddish organizations, such as YIVO, and so on. We will apply our reading and translating skills to contribute to the Mapping Yiddish New York online project, and will also have Yiddish-speaking guests. At the end of the semester, you will be able to converse in Yiddish on a variety of everyday topics and read authentic Yiddish literary and non-literary texts. Welcome back to Yiddishland!

Please note: Study abroad courses (such as the Naomi Fellowship run by Yiddish Studies Program) can count towards the minor fulfilment as well.

## **2. Courses required for Minor in Yiddish Language and Literature**

***Requirement: Combination of language and content courses: at least 15 points (see below).***

- 2 language courses at Elementary and/or Intermediate levels (listed above), and 3 elective content courses (listed below), at least two of which are literature courses: at least 17 points.

OR

- 1 language course at Advanced level (listed above) and 4 elective content courses (listed below), at least two of which are literature courses: at least 15 points.

## **3. Courses required for the Minor in Yiddish Culture**

***Requirement: Five elective content courses: at least 15 points.***

Selected from the list below, with at least three of being literature courses: at least 15 points.

The courses in Yiddish literature, culture and Jewish history, whether taught in Yiddish, English, or a combination of the English and Yiddish texts and English language instruction will expose students to modern global Yiddish/Jewish

cultures from a number of methodological and disciplinary perspectives.

Please see chart below for recommended elective content courses for:

2) Minor in Yiddish Language and Literature

3) Minor in Yiddish Culture\*

1. YIDD UN3500: Survey of Yiddish Literature
2. CLYD UN3500: Readings in Yiddish Literature
3. YIDD GU4420: Gender & Sexuality in Yiddish Literature
4. CLYD UN4200 : American Jewish Literature: Survey
5. CLYD GU4250: Memory and Trauma in Yiddish Literature
6. YIDD UN3520: Magic & Monsters in Yiddish Literature
7. HIST UN3657: Medieval Jewish Cultures
8. HIST UN3644: Modern Jewish Intellectual History
9. HIST UN3630: American Jewish History
10. HIST UN4604: Jews and the City

\*The above list is “recommended” and not “required” since there are only two full-time Yiddish faculty members at the Department of Germanic Languages, and the courses are offered in rotation. This option also allows students to choose courses aligned with their interests and research needs. All the literature courses are taught by the Yiddish faculty at the Department of Germanic Languages, other courses are taught by faculty in History, Slavic, and Religion Departments.

The Yiddish minor requirement can be fulfilled by choosing from the list of approved courses (listed here and on the departmental website) in consultation with a Yiddish Advisor – either Director of Undergraduate Studies (DUS) or the Director of the Yiddish Language Program (DLP), preferably during the first two years of undergraduate studies. All courses have to be approved in advance by the Yiddish Advisor, who will make sure student minor design (particularly in case of Minor in Yiddish Language and Literature and Minor in Yiddish Culture) offers a solid foundation in Yiddish language, literature, and culture.

The Yiddish Advisor is in contact with the faculty outside of the Germanic Languages Department in order to consult, collaborate, and monitor the student progress towards the minor, the same model being applied in regard to the Yiddish Major. Many of the Columbia faculty teaching Jewish studies content courses are also affiliated with the Institute for Israel and Jewish Studies, which not only provides students and other departments with information about Jewish/Yiddish studies courses offered across the university on a regular basis, but it also facilitates networking and collaborations between the faculty.

**List of all elective content courses for the Yiddish Minor:**

YIDD GU4101 INTRODUCTION TO YIDDISH STUDIES

YIDD UN3500 SURVEY OF YIDDISH LIT

CLYD UN4200 AMER JEWISH LIT: SURVEY

CLYD UN3600 HOLOCAUST LITERATURE: SURVEY

YIDD GU4550 YIDD THEATER: TEXT &  
PERFORMANCE

YIDD UN4401 MODERN YIDDISH POETRY

YIDD GU4200 THE FAMILY SINGER

YIDD GU4675 LIFE WRITING IN YIDD LIT

YIDD GU4420 GENDER &amp; SEXUALITY IN YIDD LIT

CLYD GU4460 HORROR STORY: JEWS &amp; OTHERS

YIDD UN3520 MAGIC &amp; MONSTERS IN YIDD LIT

CLYD UN3500 READINGS IN YIDD LIT

YIDD UN3800 READINGS IN YIDD LIT

YIDD UN3360 MODERN YIDDISH LIT &amp; CULTURE

WMST GU4310 CONT AMER JEWISH WOMEN'S LIT  
1990 TO PRESENTCLYD GU4250 MEMORY AND TRAUMA IN YIDDISH  
LITYIDD GU4995 EXPLORING YIDDISHLAND: CULTURE,  
TIME, SPACE

YIDD GU4113 YIDDISH FOR ACADEMIC PURPOSES

YIDD GU4114 YIDDISH FOR ACADEMIC PURPOSES II

HIST UN2611 JEWS AND JUDAISM IN ANTIQUITY

HIST UN3603 INTRL & GLOBAL HISTORY OF JEWISH  
MIGRATIONHIST UN3645 SPINOZA TO SABBATAI: JEWS IN  
EARLY MODERN EUROPE

HIST UN3657 MEDIEVAL JEWISH CULTURES

HIST UN3644 MODERN JEWISH INTELLECTUAL  
HISTORY

HIST UN3630 AMERICAN JEWISH HISTORY

HIST UN4281 CULTURE IN POLISH LANDS

HIST UN4641 HOLOCAUST & GENOCIDE IN  
AMERICAN CULTUREHIST UN4610 ANCIENT JEWS AND THE  
MEDITERRANEAN

HIST UN4604 JEWS AND THE CITY

RELI UN4513 HOMELANDS, DIASPORAS, PROMISED  
LANDSRELI UN4505 THE BEGINNINGS OF JEWISH  
MYSTICISM

MUSI UN2030 JEWISH MUSIC OF NEW YORK

RELI UN2306 INTRO TO JUDAISM

RELI GU4509 CRIME AND PUNISHMENT IN JEWISH  
CULTURERELI UN3571 JUDAISM, JEWISHNESS, AND  
MODERNITYRELI GU4524 THEORIES OF THE UNCONSCIOUS AND  
JEWISH THOUGHTRELI GU4522 PRODUCTION OF JEWISH DIFFERENCE  
FROM ANTIQUITY TO PRESENT

RELI GU4308 JEWISH PHILOSOPHY AND KABBALAH

RELI GU4637 TALMUDIC NARRATIVE

WMST GU4301 EARLY JEWISH WOMEN IMMIGRANT  
WRITERSWMST GU4302 THE SECOND WAVE AND JEWISH  
WOMEN'S ARTISTIC RESPONSES 1939-1990\*Since the above list of elective courses is so expansive, the  
additional course descriptions can be provided upon request.**FOR STUDENTS WHO ENTERED  
COLUMBIA IN OR BEFORE THE  
2023-24 ACADEMIC YEAR**

Concentrations are available to students who entered Columbia in or before the 2023-2024 academic year. The requirements for the Bachelor of Arts degree, and the role of the concentration in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Concentrations are not available to students who entered Columbia in or after Fall 2024.

**Concentration in German Literature and  
Cultural History**

The concentration in German literature and cultural history requires a minimum of 21 points in German courses.

GERM UN3333      INTRO TO GERMAN LIT  
(GERMAN)

At least one of the period survey courses in German literature and culture

GERM UN3442      Literature in the 18th and 19th Centuries

GERM UN3443      SURVEY OF GERMAN LIT:19C (GER)

GERM UN3444      SURVEY OF GERMAN LIT:20C (GER)

GERM UN3445      German Literature After 1945 [In German]

GERM UN3991      Advanced Topics in German Literature

The remaining courses to be chosen from the 3000- or 4000-level offerings in German and Comparative Literature in consultation with the Director of Undergraduate Studies

## Concentration in Yiddish Studies

The concentration in Yiddish studies requires a minimum of 21 points, distributed as follows:

1. **Two courses of advanced language study** (6 points); YIDD UN3101, YIDD UN3102
2. **Two courses in Yiddish literature** (6 points); e.g. YIDD UN3500, YIDD GU4420
3. **Three related courses, at least one of which is in medieval or modern Jewish history** (9 points); e.g. HIST UN4604, YIDD GU4113.

## Special Concentration in German for Columbia College and School of General Studies Students in STEM fields

The special concentration in German requires a minimum of 15 points.

GERM UN3333      INTRO TO GERMAN LIT  
(GERMAN)

At least one of the period survey courses in German Literature and Culture

GERM UN3442      Literature in the 18th and 19th Centuries

GERM UN3443      SURVEY OF GERMAN LIT:19C (GER)

GERM UN3444      SURVEY OF GERMAN LIT:20C (GER)

GERM UN3445      German Literature After 1945 [In German]

GERM UN3991      Advanced Topics in German Literature

Two courses to be chosen from the 3000- or 4000-level (taught in German or English) offerings in German and Comparative Literature German in consultation with the Director of Undergraduate Studies

## HISPANIC STUDIES

### Departmental Office:

101 Casa Hispánica | 612 W. 116th Street | (212) 854-4187  
<http://www.laic.columbia.edu/>

### Interim Director of Undergraduate Studies:

Dr. Lee B. Abraham | [lba2133@columbia.edu](mailto:lba2133@columbia.edu)

### Director of Graduate Studies:

Prof. Alberto Medina | [am3149@columbia.edu](mailto:am3149@columbia.edu)

### Director of the Spanish Language Program:

Dr. Lee B. Abraham | 402 Casa Hispánica | (212) 854-3764  
[lba2133@columbia.edu](mailto:lba2133@columbia.edu)

### Director of the Portuguese Language Program:

José Antonio Castellanos-Pazos | 501 Casa Hispánica | (212) 854-0277 | [jc846@columbia.edu](mailto:jc846@columbia.edu)

### Director of the Catalan Language Program:

Elsa Úbeda | [eu2130@columbia.edu](mailto:eu2130@columbia.edu)

The Department of Latin American and Iberian Cultures (LAIC) at Columbia, located in the Casa Hispánica, has long enjoyed an international reputation as a center for Hispanic and Lusophone studies. The department provides linguistic preparation in Spanish, Portuguese, and Catalan, and offers a flexible program to study manifestations of the Hispanic and Lusophone worlds in all historical periods—from the medieval to the globalized present—and in a variety of cultural contexts: the Iberian Peninsula, Latin America, the former colonies of Portugal, and the United States.

Students can enter the program at any level of linguistic and cultural preparedness. The department offers a placement exam to determine the level at which students may either begin or continue study. Majors and concentrators in Hispanic studies and Portuguese studies are typically double majors who bring insights and methods from fields such as history, political science, women's studies, anthropology, economics, Latino studies, Latin American studies, etc., which fosters engaging discussions.

## ACADEMIC PROGRAMS

The department offers two majors. The major in Hispanic studies gives students a well-rounded preparation in the



history and culture of the Hispanic world. The second option, a major in Hispanic studies with specialization, allows students to study the Hispanic world through a number of fields, among them Latin American studies, gender studies, political science, economics, history, and sociology. The department also offers two concentrations: Hispanic studies and Portuguese studies.

The language and major programs have also been designed in close consultation and cooperation with Barnard's Department of Spanish and Latin American Cultures. All courses taken in one program may be used to fulfill the requirements of the other. Hence, Columbia and Barnard students may move freely between departments of both institutions for courses that best fit their intellectual interests and schedules.

## ADVANCED PLACEMENT

The department grants 3 credits for a score of 5 on the AP Spanish Language exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion of a 3300-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in Spanish. Courses taught in English may not be used for language AP credit.

The department grants 0 credits for a score of 4 on the AP Spanish Language exam, but the foreign language requirement is satisfied.

The department grants 3 credits for a score of 5 on the AP Spanish Literature exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion of a 3300-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in Spanish. Courses taught in English may not be used for language AP credit.

The department grants 0 credits for a score of 4 on the AP Spanish Literature exam, but the foreign language requirement is satisfied.

## STUDY ABROAD

The department strongly recommends that all Hispanic and Portuguese studies majors/concentrators study abroad. Most courses taken abroad can be used to fulfill the requirements for the major and concentration, and with adequate planning, even some of the requirements for a second major or concentration. A maximum of four (4) courses taken abroad may be applied to the major, and a maximum of three (3) to the concentration in Hispanic or Portuguese studies.

All students are strongly advised to take either SPAN UN3349 HISPANIC CULTURES I (SP) or SPAN UN3350 HISPANIC CULTURES II (SP) before studying abroad. Actual or potential majors and concentrators in Hispanic or Portuguese studies should seek

tentative approval of their programs from the director of undergraduate studies before their departure.

## THE HISPANIC INSTITUTE

The department hosts the Hispanic Institute at Columbia. Founded in 1920 as the Instituto de las Españas, the Institute sponsors and disseminates research on Hispanic and Luso-Brazilian culture. Since 1934, the Institute has published the *Revista Hispánica Moderna*, a distinguished journal in Hispanic criticism and theory.

## IN FULFILLMENT OF THE LANGUAGE REQUIREMENT

For students with no knowledge of Spanish, Portuguese, or Catalan, at least four terms of the language are required: *UN1101-UN1102* (or *UN1120*) and *UN2101-UN2102* (or *UN2120*). **All courses must be taken for a letter grade to fulfill the language requirement.**

Students with prior knowledge of Spanish who plan to continue studying Spanish are required to take the department's on-line placement examination before registering for courses. Students with prior knowledge of Portuguese or Catalan should speak with the director of language programs.

Students may be exempted from the language requirement in one of four ways:

1. Present a score of 4 or 5 on the AP Spanish Language or Spanish Literature Exams. Students who receive a score of 5 in either exam are awarded 3 AP credits upon successful completion of a 3300-level (or above) course with a grade of B or higher. AP credit is not granted for a score of 4.
2. Present a score of 780 or above on the SAT Subject Test. Students with a score lower than 780 should take the department's on-line placement exam and follow the placement advice received.
3. Present a score of a 7, 6, or 5 on the International Baccalaureate Higher Level Exam in Spanish.
4. Obtain a score of 625 or higher on the department's Spanish as a Second Language Placement Exam. If the score on the online exam qualifies a student for exemption from the language requirement, they are required to take a second in-person version of the online placement exam during orientation (for entering students) or during the semester (for continuing students). Please check our Department's website for information about scheduling the second in-person exam for possible exemption..

## DEPARTMENTAL HONORS

Beginning in Spring 2015, the department put in place a new timeline and training program for juniors, to assist students with planning and completing the Honors Thesis during their



senior year. The Honors Thesis is an excellent option for any student interested in pursuing a Master's degree or Ph.D.; but, above all, it is a highly formative research and writing experience—one that can bear unexpected fruits toward any path the student decides to take in the future.

All students pursuing a major through the department may apply to write an Honors Thesis. The department envisions the thesis as an intellectually challenging and rewarding experience that crowns four years of undergraduate studies with an original contribution in the field chosen by the student.

The department supports students in shaping their research topic and provides frequent advising throughout the research and writing process. The timeline is as follows:

- During the junior year, students take into consideration the possibility of writing an Honors Thesis in the following year. The topic of the Honors Thesis may likely originate in an advanced course taken during the junior year; students may also choose to develop ideas discussed or papers written in courses taken in previous years. Juniors schedule a meeting (or, if the student is studying abroad, a Skype conversation) with the director of undergraduate studies to discuss their proposed topic and faculty adviser.
- By May 15, juniors who have decided to write an Honors Thesis in their senior year send a formal proposal to the director of undergraduate studies, which includes:
  - A title and a one-page abstract;
  - The name of the proposed faculty adviser;
  - An application for departmental partial funding support (for those who would like to pursue research during the summer).
- By May 30, the Honors Thesis committee reviews the proposals and informs the students of its decision.
- In the fall of the senior year:
  - Seniors selected to write the Honors Thesis enroll in a Supervised Individual Research section (SPAN UN3997 or SPAN UN3998) with their faculty adviser and write the Honors Thesis during the entire senior year under the direction of their adviser. For the purposes of the major, this independent study counts as a 3-point course towards elective courses.
  - Faculty advisers organize Honors Thesis Workshops to discuss students' ongoing projects and provide advising on research tools, methodological and theoretical frames, and overall writing process.
- In the fall of the senior year, students enroll in a Senior Seminar.
- By April 15 of the senior year, students complete and submit a PDF of the Honors Thesis via email for consideration towards departmental honors and prizes.

To be considered for departmental honors, a student must write an Honors Thesis and maintain a GPA of at least 3.6

in major courses. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

## UNDERGRADUATE PRIZES

The faculty awards an undergraduate prize every year:

### Dr. Antonio G. Mier Prize

Awarded for excellence in Hispanic Studies to a major degree candidate in the School of General Studies at Columbia University.

## PROFESSORS

Carlos J. Alonso  
Bruno Bosteels  
Patricia E. Grieve  
Alberto Medina  
Graciela R. Montaldo  
Alessandra Russo

## ASSOCIATE PROFESSORS

Seth Kimmel  
Ana Paulina Lee

## ASSISTANT PROFESSORS

Jerónimo Duarte-Riascos  
Ana M. Fernández-Cebrián

## SENIOR LECTURERS

Lee B. Abraham  
Guadalupe Ruiz-Fajardo  
José Antonio Castellanos-Pazos  
Angelina Craig-Flórez  
Reyes Llopis-García  
Ana Paula Huback  
João Nemi Neto  
Francisco Rosales-Varo  
José Plácido Ruiz-Campillo

## LECTURERS

Francisca Aguiló Mora  
Leyre Alejaldre Biel  
Irene Alonso-Aparicio  
Dolores Barbazán Capeáns  
Lorena García Barroso  
Juan Pablo Jiménez-Caicedo  
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## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### UNDERGRADUATE PROGRAMS OF STUDY

#### Major in Hispanic Studies

Students who declared this program before March 2016 (when requirements changed) should contact the Director of Undergraduate Studies to confirm their correct course of study.

Students may only register once in each of the Core Courses (SPAN UN3300, SPAN UN3349 and SPAN UN3350).

The major in Hispanic studies requires 11 courses (minimum of 33 points) as follows:

##### Core Courses

SPAN UN3300	ADV LANGUAGE THROUGH CONTENT
SPAN UN3349	HISPANIC CULTURES I (SP)
SPAN UN3350	HISPANIC CULTURES II (SP)

##### Elective Courses

Select seven elective courses (21 points): a minimum of three 3000- or 4000-level electives must be chosen within the department and up to three electives related to Hispanic Studies may be taken outside the department.

##### Senior Seminar

SPAN UN3991	SENIOR SEMINAR
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#### Major in Hispanic Studies with Specialization

Students who declared this program before March 2016 (when requirements changed) should contact the Director of Undergraduate Studies to confirm their correct course of study.

Students may only register once in each of the Core Courses (SPAN UN3300, SPAN UN3349 and SPAN UN3350).

The major in Hispanic studies with specialization requires 14 courses (minimum of 42 points) as follows. Students should consult the director of undergraduate studies to plan their program and refer to the Hispanic Studies Major Worksheet.

##### Core Courses

SPAN UN3300	ADV LANGUAGE THROUGH CONTENT
SPAN UN3349	HISPANIC CULTURES I (SP)
SPAN UN3350	HISPANIC CULTURES II (SP)

##### Elective Courses

Select ten elective courses (30 points): four of which must be chosen within the department and six of which must be in the field of specialization. Approved courses taken abroad may be counted as inside or outside the department for the specialization. A maximum of four courses taken abroad may be counted toward the major.

##### Senior Seminar \*

SPAN UN3991	SENIOR SEMINAR
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\* In exceptional cases and with the director of undergraduate studies' approval, students may take a senior seminar in their area of specialization as a seventh course outside the department, if they have completed enough foundational courses to manage the demands of an advanced seminar. In such cases, the director of undergraduate studies must receive a letter or e-mail from the seminar instructor indicating approval of a student's membership in the course; the seminar project must be on a Hispanic topic; and a copy of the project must be turned in to the director of undergraduate studies for the student's file upon completion of the course. Students who complete the senior seminar in another department may also count it as the third elective course on a Hispanic topic outside the department, in which case they may take a fourth 3000- or 4000-level course in the department.

### Minor in Hispanic Studies

#### Prerequisite

Students must either have progressed through the introductory level and first semester of the intermediate language sequence, or display the proficiency equivalent (to be demonstrated by a

placement exam).

#### 5 Total Courses:

##### Two Language Courses

-SPAN UN2102 - Intermediate Spanish

-SPAN UN3300 - Advanced Language through Content

##### Three 3000+ Courses

-Hispanic Cultures I (SPAN UN3349) or Hispanic Cultures II (SPAN UN3350)

-Two elective courses in LAIC at 3000+ level or higher (SPAN, PORT, CAT). The extensive

offering of classes varies from year to year.

**Students with higher level of language proficiency have three options :**

**#1- Language classes in LAIC may be used as an elective**

Students who test out of SPAN UN2102 may take the equivalent of two semesters of another language course at the introductory level OR one semester of an intermediate language course in another language taught in the Latin American or Iberian Department (ex: Catalan, Portuguese)

The goal is to achieve reading proficiency.

**#2- Study Abroad / Course outside LAIC:**

Students who test out of SPAN UN2102 and have not chosen #1(Catalan or Portuguese language classes) can count one course related to Latin American and Iberian Cultures content outside of LAIC at the 3000+ level, subject to approval by the Director of Undergraduate Studies.

**#3- Substitute UN 2102 and/or UN3300 for a LAIC elective**

Students who test out SPAN UN2102 and have not chosen options #1 or #2 can substitute it with an elective course in LAIC at the 3000+ level or higher, subject to approval by the Director of Undergraduate Studies. In addition, a student who has earned a 5 in Advanced Placement (AP)

Spanish or is a native speaker who has completed high school in a Spanish-speaking country may substitute UN3300 with an elective course in LAIC at the 3000+ level or higher, subject to approval by the Director of Undergraduate Studies.

**Minor in Portuguese****Prerequisite**

Students must have completed 3 semesters of Portuguese (PORT UN1101, PORT UN1102, and PORT UN2101), or the proficiency equivalent (to be demonstrated by a placement exam). Spanish speakers may fulfill the prerequisite with PORT 1320 Portuguese for Spanish Speakers.

**5 Total Courses:**

One Language Course

-Either PORT UN2102 (Intermediate Portuguese II) or PORT UN2120 (Comprehensive Intermediate Portuguese)

**Four 3000+ Courses**

\*The following courses are offered on a rotating basis each semester so students have the chance to choose from a variety of topics each semester:

-PORT UN3300 - Advanced Language through Content

-PORT UN3101 - Conversations about the Lusophone World

-PORT UN3301 - Advanced Writing and Composition

-PORT UN3330 - Introduction to Portuguese Studies

-PORT UN3350 - Lusophone and Afro-Brazilian Cultures

-PORT UN3601 - Race, Medicine, and Literature in Brazil

-PORT UN4033 - Language and Queer Identities in Brazil?

**Students with higher level of language proficiency have three options :**

**#1- Language classes in LAIC may be used as an elective**

Students who test out of PORT UN2102 may take the equivalent of two semesters of another language course at the introductory level OR one semester of an intermediate language course in another language taught in the Latin American or Iberian Department (ex: Catalan, Spanish) The

goal is to achieve reading proficiency.

**#2- Study Abroad / Course outside LAIC:**

Students who test out of PORT UN2102 and have not chosen #1 (Catalan or Spanish language classes) can count one Columbia course related to Latin American and Iberian Cultures content outside of LAIC at the 3000+ level OR two study abroad courses, subject to approval by the

Director of Undergraduate Studies (classes should have a clear Portuguese focus). Note the opportunity to count two study abroad courses for Portuguese (vs. one for Spanish), which rewards students for studying abroad in Portuguese-speaking places

**#3- Substitute PORT UN2102 for a LAIC elective**

Students who test out PORT UN2102 and have not chosen options #1 or #2 can substitute it with an elective course in LAIC at the 3000+ level or higher, subject to approval by the Director of Undergraduate Studies.

**Minor in Catalan**

The Catalan Minor follows the structure of the LAIC and Portuguese Minors but allows for more interdisciplinary and thematic courses since there is only one Catalan faculty member.

**Prerequisite**

Students must have completed one year of Catalan (CAT UN1120 and CAT UN2101), or the proficiency equivalent (to be demonstrated by a placement exam).

**5 Total Courses:**

One Language Course

-CAT UN2102 - Intermediate Catalan II

Four 3000+ Courses

\*The following courses are offered on a rotating basis each semester so students have the chance to choose from a variety of topics each semester. Note below that the conditions for counting Catalan related classes from beyond LAIC (both at Columbia and during study abroad) are more

flexible than for Spanish and Portuguese, since we are cognizant of our reliance on a single Catalan faculty member in LAIC

-CAT UN 3300 - Advanced Catalan through Content

-CAT UN 3500 - Literature in Catalan Cinema

-SPAN3300 - Introduction to Catalan Cultures OR  
SPAN3300 - Exploring Barcelona

### **Students with higher level of language proficiency have three options :**

#1- Language classes in LAIC may be used as an elective

Students who test out of CAT UN2102 may take the equivalent of two semesters of another language course at the introductory level OR one semester of an intermediate language course in another language taught in the Latin American or Iberian Department (ex: Portuguese, Spanish)

The goal is to achieve reading proficiency.

#2- Study Abroad / Course outside LAIC:

Students who test out of CAT UN2102 and have not chosen #1 (Catalan or Spanish language classes) can count two Columbia course related to Latin American and Iberian Cultures content outside of LAIC at the 3000+ level OR two study abroad courses, subject to approval by the

Director of Undergraduate Studies (classes should have a clear Catalan focus). Note the opportunity to count two non-LAIC (vs. one for Portuguese and Spanish) or two study abroad courses for Catalan (vs. two for Portuguese and one for Spanish), which rewards students for

studying abroad in Catalan-speaking places.

#3- Substitute CAT UN2102 for a LAIC elective

Students who test out CAT UN2102 and have not chosen options #1 or #2 can substitute it with an elective course in LAIC at the 3000+ level or higher, subject to approval by the Director of Undergraduate Studies.

## **FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR**

### **Concentration in Hispanic Studies**

Students who declared this program before March 2016 (when requirements changed) should contact the Director

of Undergraduate Studies to confirm their correct course of study.

Students may only register once in each of the Core Courses (SPAN UN3300, SPAN UN3349 and SPAN UN3350).

The concentration in Hispanic studies requires eight courses (minimum of 24 points) as follows:

#### **Core Courses**

SPAN UN3300	ADV LANGUAGE THROUGH CONTENT
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SPAN UN3349	HISPANIC CULTURES I (SP)
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SPAN UN3350	HISPANIC CULTURES II (SP)
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#### **Elective Courses**

Select five elective courses (15 points): a minimum of four 3000- or 4000-level courses must be chosen within the department and up to one elective related to Hispanic Studies may be taken outside the department. A maximum of three courses taken abroad may be counted toward the concentration. Students may only register once for SPAN UN3300.

## **Concentration in Portuguese Studies**

The concentration in Portuguese studies requires eight courses (minimum 24 points) as follows:

#### **Core Courses**

PORT UN3101	CONVERS ABOUT LUSOPHONE WORLD
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PORT UN3300	ADV LANGUAGE THROUGH CONTENT
-------------	------------------------------

PORT UN3330	INTRO TO PORTUGUESE STUDIES
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PORT UN3350	LUSOPHONE AFR/AFRO-BRAZ CULTRS
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#### **Elective Courses**

Select four elective courses (12 points): at least two must have a PORT designation and be chosen from the department's 3000-level offerings. Electives taken outside of the department must have the director of undergraduate studies' approval and be related to Portuguese studies. A maximum of two courses taught in English may be counted toward the concentration overall. Refer to the Portuguese Concentration Worksheet.

## **HISTORY**

### **THE HISTORY DEPARTMENT:**

Department website: <http://www.history.columbia.edu/>

Office location: 413 Fayerweather Hall

Office contact: 212-854-4646, [history@columbia.edu](mailto:history@columbia.edu)



Director of Undergraduate Studies: Prof. Paul Chamberlin /  
[dus-history@columbia.edu](mailto:dus-history@columbia.edu)

Undergraduate Administrator: Michael Adan /  
[undergraduate-history@columbia.edu](mailto:undergraduate-history@columbia.edu)

## THE STUDY OF HISTORY

The History undergraduate curriculum covers most areas of the world and most periods of history. Our courses explore various methodologies, a wide range of ways of writing history, and different approaches to the past. We emphasize no one approach to history and insist upon no single interpretive model. Thinking historically is an analytical skill of increasing value in an epoch dominated by short-term perspectives.

The History Department offers a major, concentration, and minor in history. Each degree enables students to achieve a deeper and broader knowledge of a particular field of history, while also developing the kinds of analytical and writing skills important in many areas of life. The heart of the undergraduate major is the senior thesis seminar, a small-group course in which students work closely with an individual faculty member on some subject. Undergraduate majors are not required to write a senior thesis, however in order to receive departmental honors a senior thesis must be completed. Each year the department offers 3 to 4 sections of Senior Thesis Seminar and students have the flexibility to work on any subject that they choose.

## STUDENT ADVISING

### Consulting Advisers

The History Department does not assign individual advisors providing the Undergraduate Education Committee (UNDED) for student advising. The UNDED, which consists of full-time faculty members, are ready to help undergraduates understand degree requirements, choose a specialization, guide students toward appropriate courses, and simply discuss students' experiences. Students may see any member of UNDED for advising concerns. UNDED advisors also approve a History student's Plan of Study, which serves as the course plan for students and lists the courses required to earn a History degree.

UNDED advisors hold office hours during the fall and spring terms and membership of UNDED changes from year to year, therefore please consult the department's website for an up-to-date roster. History students are strongly encouraged to meet with an UNDED advisor at least twice, during the fall of their junior year and the fall of their senior year. The undergraduate open house is held in February of each academic year. It serves as an opportunity for students to learn more about the History program from the DUS, UA, current students, and alumni.

## Enrolling in Classes

History courses fall into two types, lectures and seminars. Though almost all of these courses do not require placement exams, some seminars might require an application to join.

LECTURES meet twice a week for 1 hour and 15 minutes each session and have additional required discussion sections that meet once a week. Lectures range from the very large (over 300 students) to the very small (fewer than 25). Most lecture courses require a midterm and a final examination; many also require written assignments and final papers. For identification purposes, history lectures are numbered at the 1000 or 2000 level (exceptions exist for courses taught in the summer, which are sometimes listed at the 3000 level).

SEMINARS are smaller, more intensive courses that explore focused topics through concentrated reading in secondary literature, primary-source research, or both. They meet once a week for 1 hour and 50 minutes. The workload for seminars is generally heavier than for lectures, with more reading and more written work. Seminars normally do not have a final examination but often require a substantial paper. In many cases, admission to a seminar requires approval from the instructor and can include an application. History seminars are numbered at the 3000-level (all undergraduate) or 4000-level (undergraduate and graduate).

Some summer courses listed at the 3000 level may be lectures and do not qualify as seminars.

## Preparing for Graduate Study

TBA

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

Advanced Placement courses from High School or British A-levels do not count as History courses or towards the major, concentration, or minor.

### Barnard College Courses

Barnard College courses offered through the Barnard History Department are eligible to count towards the Columbia History major, concentration, or minor.

### Transfer Courses

The History department allows up to 3 courses outside of Columbia University to count towards the major (up to 2 for concentrators and minors), to which no more than 2 may be applied toward the specialization. These courses consist of transfer courses and/or study abroad courses.



Transfer courses taken at an accredited college in the United States must first be evaluated and approved by a student's home school before consideration to count towards the History major, concentration or minor. Students who wish to apply transfer courses to the major, concentration or minor should submit a transfer credit request to the History Department ([undergraduate-history@columbia.edu](mailto:undergraduate-history@columbia.edu)).

To submit a transfer credit request with the History Department, students must submit an application that includes the following:

- Completed departmental transfer credit form
- Transcript from course institution showing course grade
- Course syllabi
- Current Plan of Study
- An official Columbia PDF transcript is required for students that have not officially declared History as their major or concentration.
- Available coursework from the courses, such as papers or exams (for courses outside the United States)

Transfer credit request form and details can be found on the History Departments transfer credit page [here](#).

## Study Abroad Courses

The History department allows up to 3 courses outside of Columbia University to count towards the major (up to 2 for concentrators and minors), to which no more than 2 may be applied toward the specialization. These courses consist of transfer courses and/or study abroad courses.

History majors, concentrators and minors may choose to study abroad as part of their undergraduate education. This is typically done during the junior year for one term. A period of study overseas offers history students excellent opportunities to develop language skills as well as begin research projects that may be developed into a senior thesis. Members of UNDED will be happy to discuss with students their plans and how they fit both intellectual goals and program requirements. Please note that courses are formally approved by the department only after you have returned and a transfer credit request has been submitted. Students who wish to apply study abroad courses to the major, concentration or minor should submit a transfer credit request to the History Department ([undergraduate-history@columbia.edu](mailto:undergraduate-history@columbia.edu)).

To submit a transfer credit request with the History Department, students must submit an application that includes the following:

- Completed departmental transfer credit form
- Transcript from course institution showing course grade
- Course syllabi
- Current Plan of Study

- An official Columbia PDF transcript is required for students that have not officially declared History as their major or concentration.
- Available coursework from the courses, such as papers or exams (for courses outside the United States)

Transfer credit request form and details can be found on the History Departments transfer credit page [here](#).

## Summer Courses

History (HIST) summer courses taken through the School of Professional Studies are eligible to count towards the major, concentration, or minor.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

History students are encouraged to strengthen their analytical and writing skills which can be achieved through seminars. History seminars explore focused topics through concentrated reading in secondary literature, primary-source research, or both. The workload for seminars is generally heavier than lectures with more reading and more written work. Seminars normally do not have a final examination but often require a substantial paper. It is recommended that students begin taking seminars their second year and at the 3000-level. Seminars at the 4000-level consist of both undergraduate and graduate students.

Some seminars have prerequisites, which are noted in the directory course listing. In many cases, students must receive permission from the instructor prior to registering for a seminar.

### Senior Thesis Coursework and Requirements

History majors have the option of writing a senior thesis over one or two terms. This process involves original research, normally with extensive use of primary materials. The department encourages students with a strong interest in a particular subject to consider a thesis and strongly advises all students considering an academic career to write one.

Students are advised to begin thinking about whether they wish to write a thesis, and about possible topics by the start of junior year. Applications to join the year-long Senior Thesis Seminar are due during the spring semester of a student's junior year. Students writing a senior thesis must take at least 1 HIST seminar by the fall of their senior year.

Alternatively, students who wish to work with a member of the department on an individual basis may register for a one or two-term independent senior thesis section for 2-4 credits

per term. Students who pursue this option should identify an appropriate supervisor (History Department faculty member) and submit a short proposal, approved by the supervisor, to the History Department before the beginning of the thesis term. Independent theses cannot be considered for honors and prizes consideration.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

The Undergraduate Education Committee (UNDED) awards departmental honors on the basis of a high major grade point average (at least 3.6) as well as an excellent senior thesis. Students must also have an overall GPA of at least 3.6. The committee takes into account the depth and breadth of the program of study for each honors candidate. Normally, no more than 10% of graduating majors receive Departmental Honors.

### Academic Prizes

Senior Thesis Seminar writers have the opportunity to submit their thesis for prizes given by the History Department, the College, and General Studies. Prizes not administered by the department are also available and details can be found through your school's academic affairs office.

## OTHER IMPORTANT INFORMATION

To be added

## PROFESSORS

Baics, Gergely (Barnard)  
 Barkan, Elazar (SIPA)  
 Berghahn, Volker (emeritus)  
 Billows, Richard  
 Blackmar, Elizabeth  
 Blake, Casey  
 Brown, Christopher  
 Bulliet, Richard (emeritus)  
 Cameron, Euan (UTS - emeritus)  
 Carlebach, Elisheva  
 Carnes, Mark (Barnard)  
 Çelik, Zeynep  
 Chauncey, George  
 Coatsworth, John (Provost emeritus)  
 Connelly, Matthew  
 de Grazia, Victoria (emerita)  
 Delbanco, Andrew (English and Comparative Literature)  
 Diouf, Mamadou (Middle Eastern, South Asian, and African Studies)  
 Dye, Alan (Barnard)  
 Evtuhov, Catherine

Fields, Barbara  
 Foner, Eric (emeritus)  
 Force, Pierre (French and Romantic Philology)  
 Gluck, Carol (emerita)  
 Guridy, Frank  
 Hallett, Hilary  
 Howell, Martha (emerita)  
 Hymes, Robert (East Asian Language and Cultures)  
 Jackson, Kenneth (emeritus)  
 Jacoby, Karl  
 John, Richard (Journalism)  
 Katznelson, Ira (Political Science)  
 Kaye, Joel (Barnard, emeritus)  
 Kessler-Harris, Alice (emerita)  
 Khalidi, Rashid (emeritus)  
 Kim, Lisbeth Brandt (East Asian Languages and Cultures)  
 Ko, Dorothy (Barnard)  
 Kosto, Adam  
 Leach, William (emeritus)  
 Lean, Eugenia Y., (East Asian Languages and Cultures)  
 Li, Feng (East Asian Languages and Cultures)  
 Lilla, Mark (Religion)  
 Lomnitz, Claudio (Anthropology)  
 Ma, John (Classics)  
 Mann, Gregory  
 Mazower, Mark  
 McCurry, Stephanie  
 Milanich, Nara (Barnard)  
 Moya, Jose (Barnard)  
 Naylor, Celia (Barnard)  
 Ngai, Mae  
 Pedersen, Susan  
 Pflugfelder, Gregory (East Asian Languages and Cultures)  
 Phillips-Fein, Kim (DGS)  
 Piccato, Pablo (Chair)  
 Robcis, Camille  
 Rosenberg, Rosalind (Barnard)  
 Rosner, David (Mailman School of Public Health)  
 Saada, Emmanuelle (French and Romance Philology)  
 Schama, Simon (University Professor)  
 Schwartz, Seth  
 Smith, Pamela  
 Somerville, Robert (emeritus)  
 Stanislawski, Michael  
 Stephanson, Anders  
 Stephens, Rhiannon  
 Tiersten, Lisa (Barnard)  
 Tooze, Adam  
 Tuttle, Gray (East Asian Languages and Cultures)  
 Valenze, Deborah (Barnard)  
 Van, Marc de Mierop  
 Weiman, David (Barnard College)  
 Wennerlind, Carl (Barnard)  
 Witgen, Michael  
 Wortman, Richard (emeritus)

Zelin, Madeleine (East Asian Languages and Cultures)

## ASSOCIATE PROFESSORS

Ahmed, Manan  
 Baics, Gergely (Barnard)  
 Barraclough, Ruth  
 Chamberlin, Paul (DUS)  
 Chazkel, Amy  
 Coleman, Charly  
 Elshakry, Marwa  
 Erickson, Ansley (Teachers College)  
 George, Abosede (Barnard)  
 Haley, Sarah  
 Kim, Lisbeth Brandt (East Asian Languages and Cultures)  
 Kobrin, Rebecca  
 Lightfoot, Natasha  
 Lurie, David (East Asian Languages and Cultures)  
 Mazurek, Malgorzata  
 Milanich, Nara (Barnard)  
 Nguyen, Lien-Hang  
 Pflugfelder, Gregory (East Asian Languages and Cultures)  
 Pizzigoni, Caterina  
 Rao, Anupama (Barnard)  
 Roberts, Samuel  
 Senocak, Neslihan  
 Sivaramakrishnan, Kavita (Mailman School of Public Health)  
 Tuttle, Gray (East Asian Languages and Cultures)  
 Wennerlind, Carl (Barnard)

## ASSISTANT PROFESSORS

Chowkwanyun, Merlin (Mailman School of Health)  
 Delvaux, Matthew (Barnard)  
 Farber, Hannah  
 Karjoo-Ravary, Ali (Summer Sessions Representative)  
 Kreitman, Paul (East Asian Languages Cultures)  
 Lipman, Andrew (Barnard)  
 Ramgopal, Sailakshmi  
 Ramnath, Kalyani  
 #en, A.Tunç  
 Skorobogatov, Yana  
 Stafford, James  
 Steingart, Alma

## LECTURERS (ADJUNCT FACULTY)

DeVinney, Joslyn  
 Dubler, Roslyn  
 Giordani, Angela  
 Salgado, Alfonso  
 Wayno, Jeffrey

## VISITING FACULTY

Edhem Eldem, *Visiting Professor*, History (Fall and Spring)

Benedicte Sère, part-time *Visiting Associate Professor*, History (Fall and Spring)

Marian Cavalcanti, *Edward Larocque Tinker Visiting Professor*, History and ILAS (Spring)

Gabor Egry, *Istvan Deak Visiting Professor*, History and Harriman Institute (Fall and Spring)

## ON LEAVE

**Fall 2024:** Blackmar, Chauncey, Elshakry, Evtuhov, Jacoby, Kreitman, Lightfoot, Lurie, Mazurek, Ngai, Pedersen, Rao, Robcis, Senocak, Stafford, Stephanson, Witgen, Zelin,

**Spring 2025:** Blackmar, Elshakry, Evtuhov, Jacoby, Kobrin, Kreitman, Lightfoot, Lurie, Naylor, Ngai, Pedersen, Robcis, Senocak, Stafford, Stephanson, Witgen

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE HISTORY DEPARTMENT

### Program Planning for all Students Course Numbering Structure

History courses are typically offered as a lecture or a seminar.

Lectures meet twice a week for 1 hour and 15 minutes each session and have additional required discussion sections that meet once a week and are numbered at the 1000-level and 2000-level below:

- UN 1xxx - Introductory Survey Lectures
- UN 2xxx - Undergraduate Lectures

Seminars are smaller, more intensive courses that explore focused topics through concentrated reading in secondary literature, primary-source research, or both. The workload for seminars is generally heavier than for lectures, with more reading and more written work often requiring a substantial paper. Seminars are numbered at the 3000-level and 4000-level below:

- UN 3xxx - Undergraduate Seminars
- GU 4xxx - Joint Undergraduate/Graduate Seminars

History subject fields are numbered below (with some exceptions):

- x000-x059: Ancient
- x060-x099: Medieval
- x100-x199: Early modern Europe
- x200-x299: East Central Europe
- x300-x399: Modern Western Europe
- x400-x599: United States
- x600-x659: Jewish
- x660-x699: Latin America
- x700-x759: Middle East
- x760-x799: Africa
- x800-x859: South Asia
- x860-x899: East Asia
- x900-x999: Research, historiography, and transnational

## Guidance for First-Year Students

Students interested in a History degree should first take a look at the department's Undergraduate Handbook which details the requirements of the major, concentrator, and minor in History.

In regards to courses and where to begin, the History curriculum does not have a set course plan or “one size fits all” for History students. Every major, concentrator, and minor will have the opportunity to choose a field to specialize in to which their course plan will be created on a Plan of Study based on that specialization.

What is recommended to all first-year students interested in history is to begin with a lecture at the 1000 or 2000 level that captures their interest. From there they proceed to a seminar related to that initial lecture and/or more lectures as they begin building History courses for their Plan of Study.

## Guidance for Transfer Students

Students transferring into Columbia should first take a look at the department's Undergraduate Handbook which details the requirements of the major, concentrator, and minor in History.

After familiarizing themselves with the History program, transfer students should consider submitting a transfer credit request for history courses taken at their previous institution. In addition, transfer students should meet with an Undergraduate Education Committee (UNDED) advisor to go over and create a Plan of Study to set a course plan in place.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

All History students are required to choose and complete a “specialization”. The specialization is a set of courses on a specific field, theme, or subject. In most cases, the regional specialization must be bound by a time period; for example, “20th Century U.S. History” as opposed to just “U.S. History”.

To determine which History courses fulfill a specialization, students should consult an Undergraduate Education Committee (UNDED) advisor.

Students interested in a thematic specialization (e.g. Environmental History) should consult an Undergraduate Education Committee (UNDED) advisor.

All program course plans are organized through a student's Plan of Study, which is approved by an UNDED advisor.

## Major in History

The History major is an opportunity for students to pursue their intellectual interests, whether in a specific or multiple fields in history. Students will establish an understanding of various methodologies and approaches to reading and writing history and also acquire skills such as critical thinking, research and analysis, synthesizing large amounts of information, and writing.

The total number of History courses required to complete the major is 9, most of which will be 4-points, and are created through a student's Plan of Study. Courses eligible to count toward the major are below:

- Courses in the History Departments of both Columbia and Barnard (HIST and HIST BC)
- Cross-Listed courses for a specific term (found in the Columbia College Bulletin)
- Transfer courses accepted through a transfer credit request.
- Graduate courses taught by History Department faculty

With advice and approval from the Undergraduate Education Committee (UNDED), students will create a Plan of Study, which serves as the course plan for their degree.

As mentioned, the History major requires 9 total courses listed on a Plan of Study approved by an UNDED advisor. The Plan of Study courses breakdown is below:

**SPECIALIZATION COURSES** are courses directly related to a student's chosen specialization. (4 specialization courses required)

**BREADTH COURSES** are courses taken outside of a student's specialization. They are broken down into two categories: time and space.

- Removed in Time: course covering a time period far removed from their specialization. (1 removed-in-time course required)
- Removed in Space: courses in regions removed from their chosen specialization. (2 removed-in-space courses required)

**ADDITIONAL HISTORY COURSES.** These courses are History courses that do not have to fit a specific requirement. (2 additional courses required)

**SEMINAR REQUIREMENT.** Of the 9 courses, at least 2 of them must be History seminars, with at least one of them being a seminar in specialization.

## Minor in History

The History minor serves as an introduction to the discipline affording students from other programs the opportunity to pursue their intellectual interests, whether in a specific or multiple fields. Through the minor students will establish an understanding of various methodologies and approaches to reading and writing history. Through the courses taken within History minor students will also acquire skills such as critical thinking, research and analysis, synthesizing large amounts of information, and writing.

The total number of History courses required to complete the minor is 5, most of which will be 4-points. Courses eligible to count toward the minor are below:

- Courses in the History Departments of both Columbia and Barnard (HIST and HIST BC)
- Cross-Listed courses for a specific term (found in the Columbia College Bulletin)
- Graduate courses taught by History Department faculty

With advice and approval from the Undergraduate Education Committee (UNDED), students will create a Plan of Study, which serves as the course plan for their degree.

As mentioned, the History minor requires 5 total courses listed on a Plan of Study approved by an UNDED advisor. The Plan of Study courses breakdown is below:

**SPECIALIZATION COURSES** are courses directly related to a student's chosen specialization. (2 specialization courses required)

**ADDITIONAL HISTORY COURSES.** These courses are History courses that do not have to fit a specific requirement. (3 additional courses required)

**BREADTH REQUIREMENT.** Of the 5 courses, at least 1 of them must be a course taken pre-1500 or post-1500.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in History

The History concentration offers an opportunity to students from other programs the opportunity to pursue their intellectual interests, whether in a specific or multiple fields in history. Through the concentration students will establish an understanding of various methodologies and approaches to reading and writing history. Through the courses taken within History concentration students will also acquire skills such as critical thinking, research and analysis, synthesizing large amounts of information, and writing.

The total number of History courses required to complete the minor is 6, most of which will be 4-points. Courses eligible to count toward the minor are below:

- Courses in the History Departments of both Columbia and Barnard (HIST and HIST BC)
- Cross-Listed courses for a specific term (found in the Columbia College Bulletin)
- Transfer courses accepted through a transfer credit request.
- Graduate courses taught by History Department faculty

With advice and approval from the Undergraduate Education Committee (UNDED), students will create a Plan of Study, which serves as the course plan for their degree.

As mentioned, the History concentration requires 6 total courses listed on a Plan of Study approved by an UNDED advisor. The Plan of Study courses breakdown is below:

**SPECIALIZATION COURSES** are courses directly related to a student's chosen specialization. (3 specialization courses required)

**BREADTH COURSES** are courses taken outside of a student's specialization. They are broken down into two categories: time and space.



- Removed in Time: course covering a time period far removed from their specialization. (1 removed-in-time course required)
- Removed in Space: courses in regions removed from their chosen specialization. (1 removed-in-space course required)

ADDITIONAL HISTORY COURSES. The sixth course required for a History concentration does not have to fit a specific requirement. (1 additional courses required)

## HUMAN RIGHTS

### THE HUMAN RIGHTS DEPARTMENT

Program Office: Institute for the Study of Human Rights;  
61 Claremont Ave (Interchurch Center), 3rd floor;  
646-745-8577; uhrp@columbia.edu

Departmental Website: <http://humanrightscolumbia.org/education/undergraduate>

Director of Undergraduate Studies: Prof. Glenn Mitoma,  
gtm2136@columbia.edu

Deputy Director, ISHR: Gergana Halpern,  
gh2410@columbia.edu

Undergraduate Education Manager: Julia Mannes,  
jmm2447@columbia.edu

### THE STUDY OF HUMAN RIGHTS

Human rights are central to contemporary understandings of justice and equality and have crucial bearing on the ability to assess and respond to emerging technological, economic, social, cultural, and political issues.

The Undergraduate Human Rights Program at the Institute for the Study of Human Rights engages students in this dynamic and evolving field and enhances their knowledge, skills, and commitment to human rights. The program offers a major and a minor in human rights (and a concentration for students who entered Columbia prior to the 2024-25 academic year). It provides students the opportunity to deepen their knowledge and explore their interests in human rights outside the classroom, and works to strengthen and support the undergraduate human rights community on campus. More information on academic and extracurricular events, opportunities, and resources for undergraduate human rights students is available on the program's website. For an advising appointment, please e-mail uhrp@columbia.edu.

## STUDENT ADVISING

### Consulting Advisers

Prior to each semester, students should submit a major, minor, or concentration worksheet. These worksheets are also available on the ISHR undergraduate program website. Students may also e-mail uhrp@columbia.edu to set up an advising appointment.

### Enrolling in Classes

Students are encouraged to take Introduction to Human Rights (HRTS UN 3001 ) early in their studies, if possible.

We offer a selection of human rights courses at the 3000- and 4000-level. Courses offered by other schools or departments, which are pre-approved for the degree can be found on our [undergraduate course list](#).

If you have questions about course approvals or enrollment in HRTS classes, please email [UHRP@columbia.edu](mailto:UHRP@columbia.edu).

### Preparing for Graduate Study

Students interested in pursuing graduate human rights studies may be interested in applying for the Human Rights Studies B.A./M.A. option. Applicants should apply the semester before the one in which they intend to begin taking courses that will count toward the M.A. For information on how to apply for the Human Rights Studies Master of Arts (HRSMA) program and relevant deadlines, please visit this [page](#). All students would complete the 30 credit points and 2 Residence Units required of the M.A. program, but the joint option allows students to receive an M.A. one semester earlier than would normally be possible. Please refer to the [B.A./M.A. page](#) of the website for additional information.

Students are also encouraged to review the information below pertaining to the Human Rights Research Award, the Senior Thesis Track, and other Professional Development resources, which may be of interest to those planning to pursue graduate studies.

## DEPARTMENTAL HONORS AND SENIOR THESIS

### Departmental Honors

To be eligible for departmental honors, a student must satisfy all the requirements for the major, maintain a 3.6 GPA in the major, maintain an overall GPA of 3.6, and complete a thesis of sufficiently high quality to merit honors. A thesis is required for all students who wish to be considered for honors, but does not guarantee honors. Students who graduate in October, February, or May of a given academic year are eligible for honors consideration in May. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

Students interested in writing a thesis for honors consideration complete a two semester course sequence during their final year of study. In the fall, students take HRTS UN3994 Human Rights Senior Seminar: Research Methods, which introduces students to various research methods and guides them through the proposal development process. In the spring, students take HRTS UN3996 Human Rights Thesis Seminar. This course will consist of group sessions, where students will present their work and participate in discussions, as well as individual meetings with their thesis supervisor, who is also the course instructor.

Students are encouraged to write a thesis, but they should not do so solely to be eligible for honors consideration. Rather, students should consider enrolling in the thesis seminar in order to demonstrate their capacity to produce a work of original research and develop more specialized knowledge of a human rights issue. You can learn more about specific timelines for Thesis application at <https://www.humanrightscolumbia.org/education/undergraduate/human-rights-major>.

### Undergraduate Research Opportunities

#### Human Rights Research Award

In addition to the Senior Thesis Track, the ISHR Human Rights Research Award provides students with an opportunity to gain valuable research experience, while supporting the work of Columbia faculty conducting human rights-related research. Students who receive the Award are expected to complete approximately 80-120 hours of research assistance during the academic year. The research opportunities selected for each academic year are circulated to students in the Fall semester. ISHR will award one stipend per research opportunity in the amount of \$1,500. Priority will be given to HRSMA and UHRP students. Please visit our [financial resources page](#) for this and other opportunities.

### Academic Prizes and Professional Development

ISHR fosters undergraduate students' academic and professional development by awarding prizes and stipends, organizing events and activities with human rights practitioners and experts, and connecting students with resources related to the human rights field. Specifics are available on our [Professional Development and Financial Resources](#) page.

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

Welcome to the Institute for the Study of Human Rights. You might want to join the [ISHR Newsletter](#) or contact

[UHRP@columbia.edu](mailto:UHRP@columbia.edu) to begin receiving undergraduate announcements.

### Program Planning for all Students

#### Guidelines for all Human Rights Majors and Minors

Human Rights Concentrators who entered Columbia in or before the 2023-2024 academic year should consult the requirements at the bottom of this page regarding Concentrations. Students should also consult the general academic policies of their school.

#### Planning Forms

Prior to each semester that they take courses in the program, students should submit a [major](#), [minor](#), or [concentration](#) worksheet by emailing [uhrp@columbia.edu](mailto:uhrp@columbia.edu). Students may also email [UHRP@columbia.edu](mailto:UHRP@columbia.edu) to set up an advising appointment.

#### Grades

No course with a grade of D or lower is credited towards the major or minor. One course, with the exception of the three core courses required for the major or the one core course for the minor, can be taken for Pass/D/Fail. The student must receive a grade of P for the course to count towards the requirements of the major. All other courses must be taken for a letter grade. All seminar courses must be taken for a letter grade.

#### Double-Counting

In accordance with the academic policies of their school, students may double-count a maximum of two classes towards the Human Rights Major or Minor with another program's major or minor, provided that the classes are approved to fulfill a requirement for each program. Students should consult the academic policies of their school for specific information regarding the double-counting of courses taken to fulfill Global Core or other school requirements.

#### Summer Courses and Courses Taken at Other Columbia Schools

Courses taken at Barnard College and summer courses taken through the School of Professional Studies may be counted for the major or minor requirements, with departmental approval.

### Course Numbering Structure

Courses 3999 and below are strictly undergraduate courses; 4000-level courses are for graduate and advanced undergraduate students, 6000-level and above are for graduate students with limited exceptions.

# Guidance for First-Year Students

If you are considering pursuing a Human Rights Major or Minor, we would be glad to meet with you and tell you more about the degree, share advising tips, and help you familiarize yourself with our programs and the work of the Institute for the Study of Human Rights (ISHR) more broadly. Please don't hesitate to contact us at [uhrp@columbia.edu](mailto:uhrp@columbia.edu), sign up for the [ISHR Newsletter](#), which disseminates information about human rights events, opportunities, and initiatives on campus, or visit our [website](#). Most ISHR events are open to the entire Columbia community and we look forward to welcoming all students interested in human rights (even if you have not declared your major/minor yet!).

# Guidance for Transfer Students

## Transfer Credit/Study Abroad Credit

Human rights students may transfer a maximum of three courses (nine Columbia-equivalent credits) towards the Major or one course (three Columbia-equivalent credits) towards the Minor for courses taken at another institution. This includes study abroad credit and Advanced Placement courses. No more than one AP course can be transferred towards the major or the minor. Typically no more than one transfer course can count toward the distributional, and the remainder would count for the specialization. The application of transferred courses must be approved by the Director of Undergraduate Studies or the undergraduate adviser.

Students wishing to count transfer courses toward the major or the minor should email [uhrp@columbia.edu](mailto:uhrp@columbia.edu) with their Entrance/Transfer Credit Report or a transcript, the syllabi of the courses they want to count toward departmental requirements, and a statement of how they want to apply the transfer credits to the requirements.

# UNDERGRADUATE PROGRAMS OF STUDY

## Required Coursework for all Programs

All students in the program complete HRTS UN3001 INTRODUCTION TO HUMAN RIGHTS

## Major in Human Rights

The major in human rights requires 10 courses for a minimum of 31 points as follows. One of the distributional or specialization courses must be a seminar.

### Core Courses

HRTS UN3001	INTRODUCTION TO HUMAN RIGHTS
HRTS UN3190	INT'L HUMAN RIGHTS LAW

HRTS UN3995	HUMAN RIGHTS SENIOR SEMINAR
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### Distributional Requirement \*

Students take one course in three of these four categories (three courses), for a minimum of 9 credit points.

- Politics and history
- Culture and representation
- Political theory and philosophy
- Social and economic processes

### Specialization Requirement \*\*

Students fulfill the specialization requirement by focusing on a particular discipline, taking four courses for a minimum of 12 credit points offered by a single department or institute.

\* Please see the [ISHR undergraduate course list](#) for the current list of courses that fulfill the distributional requirement of the major.

\*\*The goal of the specialization requirement is to equip students with the tools of a specific discipline. Students should inform the human rights program of their intended specialization before taking courses to fulfill this requirement. As a general rule, fields of study listed as [academic programs](#) on the bulletin are approved for the specialization requirement if a free-standing major is offered. Courses approved for that major are generally approved for the human rights specialization. However, language acquisition and studio courses may not be taken to fulfill the specialization requirement. Students are encouraged to take any core and/or methodology courses required by a program when fulfilling their specialization requirement. Students are also encouraged to take courses within their chosen specialization that focus on human rights issues, but the specialization requirement can be fulfilled by taking any four courses within the same discipline. For example, if a student's specialization is Political Science, he or she can fulfill the specialization requirement by taking any four POLS courses.

## Minor in Human Rights

The minor in human rights [requires](#) 5 courses for a minimum of 15 points as follows:

HRTS UN3001 INTRODUCTION TO HUMAN RIGHTS

Four additional human rights courses.

Please see the [ISHR undergraduate course list](#) for the current list of courses that fulfill the Minor requirements.

## B.A. / M.A. Program

Applicants interested in the Human Rights Studies B.A./ M.A. option should apply the semester before the one in

which they intend to begin taking courses that will count toward the M.A. For information on how to apply for the Human Rights Studies Master of Arts (HRSMA) program and relevant deadlines, please visit this [page](#). All students would complete the 30 credit points and 2 Residence Units required of the M.A. program, but the joint option allows students to receive an M.A. one semester earlier than would normally be possible. Please refer to the [B.A./M.A. page](#) of the website for additional information.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

As of Fall 2024, the University is phasing out Concentrations. Students who entered Columbia prior to the 2024-25 academic year may pursue a Concentration in Human Rights. Students who previously enrolled in the Concentration are also welcome to discuss switching to a Minor (details above). The policies outlined above regarding Grades and Double-Counting Courses also apply to students pursuing the Human Rights Concentration.

### Concentration in Human Rights

The concentration in human rights requires 8 courses for a minimum of 24 points as follows:

HRTS UN3001	INTRODUCTION TO HUMAN RIGHTS
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Seven additional human rights courses, one of which must be a seminar.

Please see the ISHR [undergraduate course list](#) for the current list of courses that fulfill the concentration requirements.

## INFORMATION SCIENCE THE COMPUTER SCIENCE DEPARTMENT:

Department website: <http://www.cs.columbia.edu>

Office location: 450 Mudd

Office contact: [ug-advising@cs.columbia.edu](mailto:ug-advising@cs.columbia.edu)

Director of Undergraduate Studies: Dr. Jae Woo Lee, 715 CEPSR; 212-939-7066; [jae@cs.columbia.edu](mailto:jae@cs.columbia.edu)

Undergraduate Administrator: CS Advising, [ug-advising@cs.columbia.edu](mailto:ug-advising@cs.columbia.edu)

## THE COMPUTER SCIENCE MAJOR

Students study a common core of fundamental topics, supplemented by a program of six electives that provides a high degree of flexibility. Three of the electives are chosen from a list of upper-level courses that represent

area foundations within computer science. The remaining electives are selected from the complete list of upper-level computer science courses. Students are encouraged to work with their faculty advisor to create a plan tailored to fit their goals and interests. The department webpage provides several example programs for students interested in a variety of specific areas in computer science.

Our website is always the most current in terms of information and has many FAQs for students. Please view this here: [cs.columbia.edu](https://cs.columbia.edu) and contact [ug-advising@cs.columbia.edu](mailto:ug-advising@cs.columbia.edu) with any questions.

## STUDENT ADVISING

### Consulting Advisers

Undergraduate students will be assigned a CS Faculty Advisor from the list on the CS website - <https://www.cs.columbia.edu/education/undergraduate/advisors/>. Students will typically have the same advisor throughout their time in the program. However, students are encouraged to check this list at the start of every term to ensure their advisor remains the same. To reach out to your CS Faculty Advisor, please email first or visit during office hours.

### Enrolling in Classes

Computer Science Department courses are needed by many student populations and are in high demand. To facilitate all COMS students getting the courses they need and distribute seats fairly, please refer to our policy - <https://www.cs.columbia.edu/cs-course-registration-policy/>

### Preparing for Graduate Study

The department offers a number of options at the graduate level, including the MS Express. Please refer to our FAQs - <https://www.cs.columbia.edu/education/admissions8/> - or email [ms-admissions@cs.columbia.edu](mailto:ms-admissions@cs.columbia.edu) with any questions.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The department grants 3 points for a score of 4 or 5 on the AP Computer Science A exam, along with an exemption from [COMS W1004](#) Introduction to Computer Science and Programming in Java. However, we recommend that you take COMS W1004 before taking COMS W3134/W3137 Data Structures if you received a score of 4 or have not programmed in Java recently.

### Barnard College Courses

Any course offered by the Computer Science @Barnard department can count towards degree requirements. Please refer to the major and minor program information pages for specific information.



## Transfer Courses

Up to four transfer courses are accepted toward the major. Up to two transfer courses are accepted toward the minor. Calculus, linear algebra, and probability/statistics courses can be transferred in addition to the four/two-course limits. Each course must be approved as equivalent by the faculty who teaches it at Columbia. Please refer to the guide here - <https://www.cs.columbia.edu/education/undergraduate/#sec8>

## Study Abroad Courses

If you are considering studying abroad, please consult with the CS Advisor as soon as possible. Each course for potential incorporation into your CS major or minor must be approved as equivalent by the faculty who teaches it at Columbia.

## Summer Courses

Any Computer Science or approved cognate course offered during the summer session will count towards the degree, with the exception of online-only courses, which do not count towards degree requirements.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

#### **COMS W3998 UNDERGRAD PROJECTS IN COMPUTER SCIENCE. 1.00-3.00 points.**

Prerequisites: Approval by a faculty member who agrees to supervise the work.

Independent project involving laboratory work, computer programming, analytical investigation, or engineering design. May be repeated for credit. Consult the department for section assignment.

#### **COMS W4901 Projects in Computer Science. 1-3 points.**

Prerequisites: Approval by a faculty member who agrees to supervise the work.

A second-level independent project involving laboratory work, computer programming, analytical investigation, or engineering design. May be repeated for credit, but not for a total of more than 3 points of degree credit. Consult the department for section assignment.

### Senior Thesis Coursework and Requirements

A thesis is not a requirement for the major or minor.

#### **COMS W3902 UNDERGRADUATE THESIS. 0.00-6.00 points.**

Prerequisites: Agreement by a faculty member to serve as thesis adviser.

An independent theoretical or experimental investigation by an undergraduate major of an appropriate problem in computer science carried out under the supervision of a faculty member. A formal written report is mandatory and

an oral presentation may also be required. May be taken over more than one term, in which case the grade is deferred until all 6 points have been completed. Consult the department for section assignment

## Undergraduate Research Outside of Courses

### Laboratory Facilities

The department has well-equipped lab areas for research in computer graphics, computer-aided digital design, computer vision, databases and digital libraries, data mining and knowledge discovery, distributed systems, mobile and wearable computing, natural language processing, networking, operating systems, programming systems, robotics, user interfaces, and real-time multimedia.

Research labs contain several large Linux and Solaris clusters; Puma 500 and IBM robotic arms; a UTAH-MIT dexterous hand; an Adept-1 robot; three mobile research robots; a real-time defocus range sensor; interactive 3-D graphics workstations with 3-D position and orientation trackers; prototype wearable computers, wall-sized stereo projection systems; see-through head-mounted displays; a networking testbed with three Cisco 7500 backbone routers, traffic generators; an IDS testbed with secured LAN, Cisco routers, EMC storage, and Linux servers; and a simulation testbed with several Sun servers and Cisco Catalyst routers.

The department uses a SIP IP phone system. The protocol was developed in the department.

The department's computers are connected via a switched 1Gb/s Ethernet network, which has direct connectivity to the campus OC-3 Internet and internet 2 gateways. The campus has 802.11b/g wireless LAN coverage.

The research facility is supported by a full-time staff of professional system administrators and programmers.

### Participating in Research Projects

Students can reach out to professors whose research areas are of interest to them. Professors will typically require that students have completed the relevant coursework covering the background knowledge and skills.

Once a faculty member agrees to supervise the student's research work, the student will register for the professor's section of COMS W3998 or W4901.

#### **COMS W3998 UNDERGRAD PROJECTS IN COMPUTER SCIENCE. 1.00-3.00 points.**

Prerequisites: Approval by a faculty member who agrees to supervise the work.

Independent project involving laboratory work, computer programming, analytical investigation, or engineering design. May be repeated for credit. Consult the department for section assignment



**COMS W4901 Projects in Computer Science. 1-3 points.**

Prerequisites: Approval by a faculty member who agrees to supervise the work.

A second-level independent project involving laboratory work, computer programming, analytical investigation, or engineering design. May be repeated for credit, but not for a total of more than 3 points of degree credit. Consult the department for section assignment.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

The Computer Science Department does not award departmental honors.

### Academic Prizes

Jonathan L. Gross Award for Academic Excellence: This award was established in 2017 in honor of the much loved Professor Emeritus Jonathan Gross. Each year a cash gift is awarded to one graduating masters student and to one graduating senior from each of the four undergraduate schools served by the Department of Computer Science.

Theodore R. Bashkow Award: Presented to a computer science senior who has excelled in independent projects. This is awarded in honor of Professor Theodore R. Bashkow, whose contributions as a researcher, teacher, and consultant have significantly advanced the state of the art of computer science.

Andrew P. Kosoresow Memorial Award for Excellence in Teaching and Service: Awarded for outstanding contributions to teaching in the Department of Computer Science and exemplary service to the Department and its mission.

Computer Science Scholarship Award: A cash prize awarded to two B.A. and two B.S. degree candidates for outstanding academic achievement in computer science.

Russell C. Mills Award: This annual award, established by the computer science department in 1992 in memory of Russell C. Mills, is a cash prize given to a computer science major who has exhibited excellence in the area of computer science.

## OTHER IMPORTANT INFORMATION

See the Requirements section for the policies on double counting and D grades.

## PROFESSORS

Peter N. Belhumeur  
Steven M. Bellovin  
Luca Carloni  
Xi Chen

Steven K. Feiner  
Luis Gravano  
Julia B. Hirschberg  
Gail E. Kaiser  
John R. Kender  
Tal Malkin  
Kathleen R. McKeown  
Vishal Misra  
Shree Kumar Nayar  
Jason Nieh  
Christos Papadimitriou  
Itsik Pe'er  
Toniann Pitassi  
Kenneth A. Ross  
Tim Roughgarden  
Daniel S. Rubenstein  
Henning G. Schulzrinne  
Rocco A. Servedio  
Simha Sethumadhavan  
Salvatore J. Stolfo  
Bjarne Stroustrup  
Vladimir Vapnik  
Jeannette Wing  
Junfeng Yang  
Mihalis Yannakakis  
Richard Zemei

## ASSOCIATE PROFESSORS

Alexandr Andoni  
Elias Bareinboim  
Augustin Chaintreau  
Stephen A. Edwards  
Roxana Geambasu  
Daniel Hsu  
Suman Jana  
Martha Allen Kim  
Baishakhi Ray  
Carl Vondrick  
Eugene Wu  
Zhou Yu  
Changxi Zheng  
Xia Zhou

## ASSISTANT PROFESSORS

Josh Alman  
Lydia Chilton  
Ronghui Gu  
Kostis Kaffes  
David Knowles  
Brian Smith  
Henry Yuen

## SENIOR LECTURER IN DISCIPLINE

Paul Blaer  
Adam Cannon  
Jae Woo Lee

## LECTURER IN DISCIPLINE

Daniel Bauer  
Brian Borowski  
Tony Dear

## ASSOCIATED FACULTY JOINT

Andrew Blumberg  
Shih-Fu Chang  
Feniosky Peña-Mora  
Clifford Stein

## AFFILIATES

Shipra Agrawal  
Mohammed AlQuraishi  
Elham Azizi  
Paolo Blikstein  
Asaf Cidon  
Matei Ciocarlie  
Rachel Cummings  
Noemie Elhadad  
Javad Ghaderi  
Gamze Gursoy  
Xiaofan Jiang  
Ethan Katz-Bassett  
Hod Lipson  
Smaranda Muresan  
Liam Paninski  
Brian Plancher  
Mark Santolucito  
Lisa Soros  
Barbara Tversky  
Venkat Venkatasubramanian  
Rebecca Wright  
Gil Zussman

## SENIOR RESEARCH SCIENTISTS

Gaston Ormazabal  
Moti Yung

## EMERITUS

Alfred V. Aho  
Peter K. Allen  
Edward G. Coffman Jr.  
Zvi Galil  
Jonathan L. Gross  
Steven M. Nowick  
Stephen H. Unger  
Henryk Wozniakowski  
Yechiam Yemini

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

The following requirements are new as of the academic year 2023-2024. Students who declared a CS major in the academic year 2022-2023 or earlier have the option to follow the old requirements. The old requirements are noted on the [Undergraduate Programs pages](https://www.cs.columbia.edu/education/undergraduate/) of the Computer Science Department website (<https://www.cs.columbia.edu/education/undergraduate/>).

Please note that the information on the department website is more up-to-date than the information in the archived Bulletins. Students with questions about which requirements to follow are advised to talk with ug-advising@cs.columbia.edu.

### Restrictions on overlapping courses

Students may receive credit for only one of the following two courses:

- [COMS W1004](#) Introduction to Computer Science and Programming in Java
- [COMS W1005](#) Introduction to Computer Science and Programming in MATLAB.

Students may receive credit for only one of the following three courses:

- [COMS W3134](#) Data Structures in Java
- [COMS W3136](#) ESSENTIAL DATA STRUCTURES
- [COMS W3137](#) HONORS DATA STRUCTURES # ALGOL

COMS W1005 and COMS W3136 cannot be counted towards the Computer Science major, minor, and concentration.

No more than 6 points of project/thesis courses (COMS W3902, W3998, W4901) can count toward the major. COMS W3999 Fieldwork cannot be used as a CS Elective.

No more than one course from each set below may be applied towards the computer science major:

- IEOR E3658, STAT UN1201, MATH UN2015
- MATH UN2015, MATH UN2010, APAM E3101, COMS W3251
- COMS W4771, COMS W4721

## Double Counting

Double-counting policies are to be construed within the larger double-counting policy of the student's home school. Double-counting policies are detailed on each School's Bulletin and/or Catalog.

The CS department allows the following courses in the CS Core and Mathematics requirement to be double-counted with another major, minor, or concentration. No other courses can be double-counted with another program.

- COMS W1004
- Any calculus courses (including Honors Math A and B)
- One Linear Algebra course
- One Probability/Statistics course

## Grading

A maximum of one course worth no more than 4 points passed with a grade of D may be counted toward the major or minor.

## Course Numbering Structure

The first digit indicates the level of the course, as follows:

- 0 Course that cannot be credited toward any degree
- 1 Undergraduate course
- 2 Undergraduate course, intermediate
- 3 Undergraduate course, advanced
- 4 Graduate course that is open to qualified undergraduates
- 6 Graduate course
- 8 Graduate course, advanced
- 9 Graduate research course or seminar

## Guidance for First-Year Students

### Pre-Introductory Courses

COMS W1004 is the first course in the Computer Science major curriculum, and it does not require any previous computing experience. Before taking COMS W1004, however, students have an option to start with one of the pre-introductory courses: ENGI E1006 or COMS W1002.

ENGI E1006 Introduction to Computing for Engineers and Applied Scientists is a general introduction to computing for STEM students. ENGI E1006 is in fact a required course for all engineering students. COMS W1002 Computing in Context is a course primarily intended for humanities majors, but it also serves as a pre-introductory course for CS majors.

ENGI E1006 and COMS W1002 do not count towards Computer Science major.

## Guidance for Transfer Students

Up to four transfer courses are accepted toward the major. Up to two transfer courses are accepted toward the minor or concentration. Calculus, linear algebra, and probability/statistics courses can be transferred in addition to the four/two-course limits.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in Computer Science

All majors should confer with their program adviser each term to plan their programs of study. Students considering a major in computer science are encouraged to talk to a program adviser during their first or second year. The Computer Science major is composed of four basic components: The Mathematics Requirement, the Computer Science Core, the Area Foundation Courses, and the Computer Science Electives.

### Mathematics Requirement (6-11 points)

**Calculus Requirement: Select one of the following courses:**

MATH UN1201	CALCULUS III
MATH UN1205	ACCELERATED MULTIVARIABLE CALC
APMA E2000	MULTV. CALC. FOR ENGI # APP SCI

Note that MATH UN1201 (Calculus III) requires Calculus I as a prerequisite but does NOT require Calculus II. MATH UN1205 and APMA E2000, however, require both Calculus I and Calculus II as prerequisites.

**Linear Algebra Requirement: Select one of the following courses:**

COMS W3251	COMPUTATIONAL LINEAR ALGEBRA (recommended)
MATH UN2010	LINEAR ALGEBRA
MATH UN2015	Linear Algebra and Probability
MATH UN2020	Honors Linear Algebra
APMA E2101	INTRO TO APPLIED MATHEMATICS
APMA E3101	APPLIED MATH I: LINEAR ALGEBRA

**Probability / Statistics Requirement: Select one of the following courses:**

MATH UN2015	Linear Algebra and Probability
IEOR E3658	PROBABILITY FOR ENGINEERS
STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS

NOTE: Math 2015 Linear Algebra and Probability may simultaneously satisfy both linear algebra and probability requirements without the need to take additional classes thus reducing the total number of points required.

### Pre-intro course (Optional, 3-4 points)

ENGI E1006	INTRO TO COMP FOR ENG/ APP SCI (recommended but not required)
or COMS W1002	COMPUTING IN CONTEXT

### Computer Science Core (20-21 points):

#### First Year

COMS W1004	Introduction to Computer Science and Programming in Java
or COMS W1007	

#### Sophomore Year

COMS W3134	Data Structures in Java
or COMS W3137	HONORS DATA STRUCTURES # ALGOL
COMS W3157	ADVANCED PROGRAMMING
COMS W3203	DISCRETE MATHEMATICS

#### Junior and Senior Year

Complete the remaining required core courses:

COMS W3261	COMPUTER SCIENCE THEORY
CSEE W3827	FUNDAMENTALS OF COMPUTER SYSTS

### Area Foundation Courses (9 to 12 points):

Select three from the following list:

COMS W4111	INTRODUCTION TO DATABASES
COMS W4113	FUND-LARGE-SCALE DIST SYSTEMS
COMS W4115	PROGRAMMING LANG # TRANSLATORS
COMS W4118	OPERATING SYSTEMS I
COMS W4119	COMPUTER NETWORKS
COMS W4152	Engineering Software-as-a- Service
COMS W4156	ADVANCED SOFTWARE ENGINEERING
COMS W4160	COMPUTER GRAPHICS
COMS W4167	COMPUTER ANIMATION
COMS W4170	USER INTERFACE DESIGN
COMS W4181	SECURITY I
CSOR E4231	ANALYSIS OF ALGORITHMS I
COMS W4236	INTRO-COMPUTATIONAL COMPLEXITY
COMS W4701	ARTIFICIAL INTELLIGENCE

COMS W4705	NATURAL LANGUAGE PROCESSING
COMS W4731	Computer Vision I: First Principles
COMS W4733	COMPUTATIONAL ASPECTS OF ROBOTICS
CBMF W4761	COMPUTATIONAL GENOMICS
COMS W4771	MACHINE LEARNING
CSEE W4824	COMPUTER ARCHITECTURE
CSEE W4868	SYSTEM-ON-CHIP PLATFORMS

### Computer Science Electives (9 to 12 points)

Any three COMS courses or jointly offered computer science courses such as CSXX or XXCS course that are worth at least 3 points and are at the 3000 level or above. This includes 3000-level courses offered by Barnard CS.

#### Restrictions

No more than 6 points of project/thesis courses (COMS W3902, W3998, W4901) can count toward the major. COMS W3999 Fieldwork cannot be used as a CS Elective.

No more than one course from each set below may be applied towards the computer science major:

- IEOR E3658, STAT UN1201, MATH UN2015
- MATH UN2015, MATH UN2010, APAM E3101, COMS W3251
- COMS W4771, COMS W4721

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### Major in Computational Biology

For a description of the joint major in computer science—Biology, see the [Biological Sciences](#) section in this bulletin.

### Major in Computer Science - Mathematics

For a description of the joint major in computer science—mathematics, see the *Mathematics* section in this bulletin.

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### Major in Information Science

The major in information science requires a minimum of 33 points, including a core requirement of five courses. Adjustments were made to the course lists below in March 2022.

The elective courses must be chosen with a faculty adviser to focus on the modeling and use of information within the context of a disciplinary theme. After discussing potential selections, students prepare a proposal of study that must be approved by the faculty adviser. In all cases, the six courses

must be at the 3000 level or above, with at least three courses chosen from computer science. Following are some example programs. For more examples or templates for the program proposal, see a faculty adviser.

Note: In most cases, additional courses will be necessary as prerequisites in order to take some of the elective courses. This will depend on the student's proposed program of study.

COMS W1001	Introduction to Information Science
or COMS W1002 Computing in Context	
COMS W1004	Introduction to Computer Science and Programming in Java
COMS W3107	Clean Object-Oriented Design
COMS W3134	Data Structures in Java
STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS

Following are some suggested programs of instruction:

### Information Science and Contemporary Society

Students may focus on how humans use technology and how technology has changed society.

The requirements include:

COMS W4111	INTRODUCTION TO DATABASES
COMS W4170	USER INTERFACE DESIGN
COMS W4701	ARTIFICIAL INTELLIGENCE
COMS W3410	COMPUTERS AND SOCIETY
SOCI UN3010	METHODS FOR SOCIAL RESEARCH
SOCI UN3960	SEMINAR - PROBLEMS OF LAW # SOCIETY

### Information Science and the Economy

Students may focus on understanding information modeling together with existing and emerging needs in economics and finance as well as algorithms and systems to address those needs.

The requirements include:

COMS W4111	INTRODUCTION TO DATABASES
COMS W4701	ARTIFICIAL INTELLIGENCE
COMS W4771	MACHINE LEARNING
ECON UN3412	INTRODUCTION TO ECONOMETRICS
ECON UN3025	FINANCIAL ECONOMICS
ECON UN3265	MONEY AND BANKING

### Information Science and Health Sciences

Students may focus on understanding information modeling together with existing and emerging needs in health sciences, as well as algorithms and systems to address those needs.

The requirements include:

COMS W4111	INTRODUCTION TO DATABASES
COMS W4170	USER INTERFACE DESIGN
COMS W4701	ARTIFICIAL INTELLIGENCE
BINF G4001	
BIOL W4037	Bioinformatics of Gene Expression
ECBM E3060/E4060	

### Major in Data Science

In response to the ever-growing importance of "big data" in scientific and policy endeavors, the last few years have seen explosive growth in theory, methods, and applications at the interface between computer science and statistics. The statistics and computer science departments have responded with a joint major that emphasizes the interface between the disciplines.

#### Prerequisites (15 points)

MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II
MATH UN1201	CALCULUS III
MATH UN2010	LINEAR ALGEBRA
This introductory Statistics course:	
STAT UN1201	CALC-BASED INTRO TO STATISTICS

#### Statistics (12 points)

STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS
STAT GU4241	STATISTICAL MACHINE LEARNING
or COMS W4771 Machine Learning	

#### Computer Science (12 points)

Select one of the following courses:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
COMS W1007	
ENGI E1006	INTRO TO COMP FOR ENG/ APP SCI

Select one of the following courses:



COMS W3134	Data Structures in Java
COMS W3136	ESSENTIAL DATA STRUCTURES
COMS W3137	HONORS DATA STRUCTURES # ALGOL
Two required courses:	
COMS W3203	DISCRETE MATHEMATICS
CSOR W4231	ANALYSIS OF ALGORITHMS I
<b>Electives (15 points)</b>	
Select two of the following courses:	
STAT UN3106	APPLIED MACHINE LEARNING
STAT GU4206	STAT COMP # INTRO DATA SCIENCE
STAT GU4224	BAYESIAN STATISTICS
STAT GU4243	APPLIED DATA SCIENCE
STAT Q4242	Advanced Machine Learning
Select three of the following courses:	
COMS W3261	COMPUTER SCIENCE THEORY
COMS W4111	INTRODUCTION TO DATABASES
COMS W4130	
COMS W4236	INTRO-COMPUTATIONAL COMPLEXITY
COMS W4252	INTRO-COMPUTATIONAL LEARN THRY
Any COMS W47xx course EXCEPT W4771	

## Minor in Computer Science

Students who pass the Computer Science Advanced Placement Exam A with a 4 or 5 will receive 3 points and an exemption from COMS W1004.

The Computer Science Minor consists of 6 courses as follows:

1. COMS W1004: Intro to computer science and programming in Java (3) or COMS W1007: Honors intro to comp sci (3)
2. COMS W3134: Data structures in Java (3) or COMS W3137: Honors data structures and algorithms (4)
3. COMS W3203: Discrete mathematics (4)
4. One course of the following:  
COMS W3157: Advanced programming (4)  
COMS W3261: Comp science theory (3)  
CSEE W3827: Fundamentals of computer systems (3)
5. Any 3000-level or 4000-level COMS/CSXX/XXCS course of at least 3 points

6. Any 3000-level or 4000-level COMS/CSXX/XXCS course of at least 3 points OR one linear algebra or probability/statistics course from the following: APMA E3101, APMA E2101, MATH UN2010, MATH UN2015, IEOR E3658, STAT UN1201, STAT GU4001 or STAT GU4203.

## Restrictions

No more than 6 points of project/thesis courses (COMS W3902, W3998, W4901) can count toward the major. COMS W3999 Fieldwork cannot be used as a CS Elective.

No more than one course from each set below may be applied towards the computer science major:

- IEOR E3658, STAT UN1201, MATH UN2015
- MATH UN2015, MATH UN2010, APAM E3101, COMS W3251
- COMS W4771, COMS W4721

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

## Concentration in Computer Science

The concentration in computer science requires a minimum of 22-24 points, as follows:

COMS W1004	Introduction to Computer Science and Programming in Java
or COMS W1007	
COMS W3134 or COMS W3137	Data Structures in Java HONORS DATA STRUCTURES # ALGOL
COMS W3157	ADVANCED PROGRAMMING
COMS W3203	DISCRETE MATHEMATICS
COMS W3261	COMPUTER SCIENCE THEORY
CSEE W3827	FUNDAMENTALS OF COMPUTER SYSTS (or any 3 point 4000-level computer science course)
Select one of the following courses:	
COMS W3251	COMPUTATIONAL LINEAR ALGEBRA
MATH UN2010	LINEAR ALGEBRA
MATH UN2015	Linear Algebra and Probability
MATH V2020	Honors Linear Algebra
APMA E2101	INTRO TO APPLIED MATHEMATICS

APMA E3101	APPLIED MATH I: LINEAR ALGEBRA
IEOR E3658	PROBABILITY FOR ENGINEERS
STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4001	INTRODUCTION TO PROBABILITY AND STATISTICS

## ITALIAN

### THE DEPARTMENT OF ITALIAN:

Department website: <https://italian.columbia.edu/>

Office location: 502 Hamilton Hall

Office contact: 212-854-2308, [italian@columbia.edu](mailto:italian@columbia.edu)

Director of Undergraduate Studies: Konstantina Zanou, 212-853-8205 [kz2269@columbia.edu](mailto:kz2269@columbia.edu)

Directors of the Language Program (DLP):

Elementary: Felice Beneduce, [fb2321@columbia.edu](mailto:fb2321@columbia.edu)

Intermediate: Alessandra Saggin, [as2931@columbia.edu](mailto:as2931@columbia.edu)

### ITALIAN AND MEDITERRANEAN STUDIES

The Italian Department offers students in-depth knowledge of Italian language, literature, history, and culture from the Middle Ages to the present, by placing Italy within its Mediterranean culture in an intimate, seminar setting with the close supervision of the department's faculty.

The Major in Italian is designed to give students an advanced knowledge of the Italian language and to help them gain a deeper understanding of the literature, culture, history, and society of Italy in a globalized world.

The Minor in Italian is a smaller and more flexible course of study that allows students to develop an understanding of Italian literature, culture, history, and society.

### STUDENT ADVISING

Director of Undergraduate Studies: Konstantina Zanou, 212-853-8205 [kz2269@columbia.edu](mailto:kz2269@columbia.edu)

Directors of the Language Program (DLP):

Elementary: Felice Beneduce, [fb2321@columbia.edu](mailto:fb2321@columbia.edu)

Intermediate: Alessandra Saggin, [as2931@columbia.edu](mailto:as2931@columbia.edu)

### Consulting Advisers

- For questions regarding the major and the minors, students should contact the Director of Undergraduate

Studies: Konstantina Zanou, 212-853-8205  
[kz2269@columbia.edu](mailto:kz2269@columbia.edu)

- For questions regarding Italian language courses, students should contact the Directors of the Language Program (DLP):

- Elementary: Felice Beneduce, [fb2321@columbia.edu](mailto:fb2321@columbia.edu)
- Intermediate: Alessandra Saggin, [as2931@columbia.edu](mailto:as2931@columbia.edu)

- Students pursuing an Italian Major should download this worksheet.
- Students pursuing an Italian Minor should download this worksheet.
- Students pursuing a Minor in Mediterranean Studies should download this worksheet.

### Enrolling in Classes

1. For students pursuing an Italian Major or Minor, who have no prior knowledge of Italian, the required sequence is Elementary Italian I & II (UN1101-UN1102) or Intensive Elementary Italian (UN112) and Intermediate Italian I & II (UN2101-UN2102) or Intensive Intermediate Italian (UN2121).
2. Students with prior knowledge of Italian must take the Italian placement exam before declaring the Italian Major or Minor. Students may be exempted from the language requirement in Italian in one of three ways:
  - a. by presenting a score of 4 or 5 on the Advanced Placement Italian Exam
  - b. by presenting a score of 780 or above on the SAT Subject Test in Italian
  - c. by obtaining a satisfactory score on the department's placement examination

### COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Coursework in fulfillment of the Italian Major, the Italian Minor, and the Minor in Mediterranean Studies must be taken at Columbia University unless expressly permitted by the Director of Undergraduate Studies. Exceptions or substitutions permitted by the Director of Undergraduate Studies should be confirmed in writing by email to the student.

### Advanced Placement

The department grants 3 credits for a score of 5 on the AP Italian Language exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion

of a 3000-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in Italian. Courses taught in English may not be used for language AP credit. The department grants 0 credits for a score of 4 on the AP Italian Language exam, but the foreign language requirement is satisfied.

## Barnard College Courses

All relevant Barnard courses are treated as part of the available curriculum and accepted in the Major and Minors.

Students should consult with the Director of Undergraduate Studies on which Barnard courses are considered relevant.

## Transfer Courses

- When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit (e.g., to confirm that the courses will count toward the 124 points of credit that every student is required to complete for the B.A. degree). Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major or minor.
- No more than three (3) courses toward the Italian Major may be fulfilled with transfer credit; no more than one (1) course toward the Minors.
- Students should contact the Director of Undergraduate Studies to request review of transfer credit and submit the syllabi of courses taken outside Columbia for consideration.

## Study Abroad Courses

- Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Undergraduate Global Engagement and taught by Columbia instructors) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus. If they are not explicitly listed by the department as fulfilling requirements in the major or minor, the Director of Graduate Studies will need to confirm that they can be used toward requirements in the Major/Minors.
- Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia, and are subject to the same policies as other transfer courses. There will be a limit on the number of courses taken abroad that can be applied to the Major/Minor, and they must be approved by the Director of Undergraduate Studies.

## Summer Courses

- Summer courses at Columbia are offered through the School of Professional Studies. Courses taken in a Summer Term may be used toward requirements for the Major/Minors only as articulated in Department guidelines or by permission of the Director of Undergraduate Studies. More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin.
- Beyond the Columbia Summer in Venice Program, for students who stay in New York the Italian Department offers courses in Elementary and Intermediate Italian during the Summer.

## CORE CURRICULUM CONNECTIONS

- Students may be interested in course offerings in this department that can be taken in fulfillment of the Global Core requirement and the Language requirement of the Core Curriculum. See the list of approved courses for the requirement on this page of the Bulletin that lists all approved courses to see the list of courses in this department that have been approved for the requirement.
- For students who would like to build on their experience in Literature Humanities, the Italian Department offers courses on Dante, who has been on the Literature Humanities curriculum since its inception, and on Boccaccio. In addition, the Department offers Mediterranean Humanities I & II, a sequence of courses designed as the Global Core equivalent of Literature Humanities.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

The courses offered by the Italian Department introduce students to an array of methodologies in literary criticism, comparative literature, cultural studies, film studies, food studies, history of philology, intellectual and transnational history

### Senior Thesis Coursework and Requirements

Highly motivated Italian majors have the opportunity to pursue a senior thesis under the guidance of a faculty adviser in an area of Italian literature or culture of their choosing. The senior thesis tutorial (ITAL UN3993 Senior Thesis/Tutorial) will count for 3 points.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Majors in Italian who wish to be considered for departmental honors in Italian must (1) have at least a 3.6 GPA in their courses for the major and (2) complete a senior thesis or tutorial and receive a grade of at least A- within the context of the course ITAL UN3993. Normally, departmental honors are awarded to no more than one graduating senior.

### Academic Prizes

- The Italian Department awards through an internal selection process the following prizes:

For Columbia College students:

—Dino Bigongiari Prize: This prize was established by the former students and friends of Professor Bigongiari. It may be awarded annually to the Columbia College senior who has written an outstanding essay on Italian Civilization, or whose work in the regular Italian courses is judged most worthy of distinction.

—Helen and Howard R. Marraro Prize: This prize may be awarded annually to up to 2 Columbia College undergraduates of high academic distinction and promise in an area of study concerned with Italian culture, including art, music, comparative literature, history, economics, government, or in any other academic discipline. The prize was established in honor of Professor Marraro.

For General Studies students:

—The Medaglia D'Oro prize for excellence in Italian Studies. (The amount of this prize is \$300.)

—The Benedetto Marraro Prize for distinction in Italian Studies. (The amount of this prize is \$300.)

- The National Italian Honor Society (GKA)

Juniors and seniors (CC, GS, BC) who show superior scholastic performance in the field of Italian language, literature, and culture can be nominated as members of the National Italian Honor Society (GKA). The Honor Society “encourages college students to acquire a greater interest in, and a deeper understanding of, Italian culture, art and history.” Juniors and seniors with at least a B+ average in Italian who have taken courses in culture and/or literature are eligible for membership.

In addition, the Society offers a \$500 award to an essay (2000-2500 words) written in Italian. Students must be seniors completing an Italian Major or Minor in order to compete for the essay award.

## OTHER IMPORTANT INFORMATION

- A wide range of cultural programs are sponsored by the Italian Academy for Advanced Studies in America, including the activities of the Columbia Seminar on Modern Italian Studies. These programs enrich the learning experience of the students and offer opportunities to meet distinguished Italian and Italian-American visitors to the University.

The Columbia Summer in Venice Program, housed in the Casa Muraro, offers students the opportunity to immerse themselves in the culture, history, and language of Venice on a six-week summer program in the city. Students learn about the art, literature, music, culture and society of Venice and the Veneto region while also having the option to study and practice Italian. The program is not geared toward any particular major (although its courses count toward the Major and Minor in Italian, as well as the Minor in Mediterranean Studies), and students with no Italian language or art history background are eligible to apply.

## PROFESSORS

Teodolinda Barolini, Director of Graduate Studies (DGS - Fall 2024)

Jo Ann Cavallo, Chair  
Elizabeth Leake

## ASSOCIATE PROFESSORS

### SENIOR LECTURERS

Felice Italo Beneduce, Elementary DLP  
Federica Franze  
Maria Luisa Gozzi  
Patrizia Palumbo  
Carol Rounds (Hungarian)  
Alessandra Saggin, Intermediate DLP  
Barbara Spinelli

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

- Students who entered Columbia (as first-year students or as transfer students) in or after Fall 2024 may select from a curriculum of majors and minors. The requirements for the Bachelor of Arts degree, and role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when



the student was a sophomore and declared programs of study.

- Students who entered Columbia in or before Fall 2023 may select from a curriculum of majors and minors and concentrations. The requirements for the Bachelor of Arts degree, and the role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.
- The program of study is to be planned as early as possible with the Director of Undergraduate Studies. Students are advised to meet with the Director of Undergraduate Studies each semester in order to obtain program approval.

## Course Numbering Structure

With the exception of conversation courses, Elementary language classes are UN1XXX, Intermediate language classes are UN2XXX, and Advanced language classes are UN3XXX. (Conversation courses do not count toward the Major or the Minor and all start with UN1XXX, regardless of level.) Any literature, culture or history courses at the 4XXX level start with GU and are suitable for undergraduate students as well as graduate students. Undergraduate literature, culture or history courses start with UN3XXXX.

## Guidance for First-Year Students

- For students pursuing an Italian Major or Minor the prerequisite is Intermediate II or a demonstrated equivalent level of knowledge of the Italian language.
- For students who have no prior knowledge of Italian, the required sequence is Elementary Italian I & II (UN1101-UN1102) or Intensive Elementary Italian (UN1121) and Intermediate Italian I & II (UN2101-UN2102) or Intensive Intermediate Italian (UN2121).
- Students with prior knowledge of Italian must take the Italian placement exam before declaring the Italian Major or Minor. Students may be exempted from the language requirement in Italian in one of three ways: a) by presenting a score of 4 or 5 on the Advanced Placement Italian Exam; b) by presenting a score of 780 or above on the SAT Subject Test in Italian; c) by obtaining a satisfactory score on the department's placement examination

## Guidance for Transfer Students

Transfer students pursuing an Italian Major or Minor may need to enroll in Intensive Italian courses (ITAL UN1121 Intensive Elementary Italian;

ITAL UN2121 Intensive Intermediate Italian) in order to fulfill the language prerequisite in time.

## Double-counting Guidelines for All Students

- If a student decides to pursue more than one program of study, the student's declared programs of study may not both be governed by the same department. For example, a student may not declare a Major or a Minor in Italian and a Minor in Mediterranean Studies.
- Students may double-count courses taken to fulfill the Language requirement and the Global Core requirement toward programs of Study (Italian Major and Minor, and Minor in Mediterranean Studies). Note: The shared courses of the Core Curriculum—specifically, Art Humanities, Contemporary Civilization, Frontiers of Science, Literature Humanities, Music Humanities, and University Writing—may not be double-counted with any major or minor.
- In addition to double-counting any courses described above, students pursuing two programs of study may double-count a maximum of two classes of any type, if the classes are approved by the Director of Undergraduate Studies to fulfill a requirement for each program of study.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in Italian

The Major in Italian offers students in-depth knowledge of Italian language, literature, history, and culture from the Middle Ages to the present. Through a cluster of courses from the Italian Department, as well as other Humanities and Social Science departments and approved study abroad programs, the Major in Italian seeks to enhance students' knowledge of Italy in a globalized world.

The learning goals of the Major in Italian are therefore: 1) to give students an advanced knowledge of the Italian language; and 2) to help students gain a deeper understanding of the literature, culture and history of Italy.

### Design

The Major in Italian requires a minimum of 30 points (10 courses).

### Prerequisites

The 30 required points (10 courses) do not include the necessary prerequisites, i.e. Intermediate II or a demonstrated equivalent level of knowledge of the Italian language.



For students who have no prior knowledge of Italian, the required sequence to cover the prerequisite is Elementary Italian I & II (UN1101-UN1102) and Intermediate Italian I & II (UN2101-UN2102), or Intensive Elementary Italian (ITAL UN1121) and Intensive Intermediate Italian (ITAL UN2121), or a combination between a regular sequence and an intensive course. Therefore, for a student who must take all coursework at Columbia (i.e., who does not enter Columbia with advanced placement) the overall number of courses required to pursue an Italian Major is 14 (46 points, 16 of which count also toward the Language requirement). However, the overall number of courses required to pursue an Italian Major becomes either 12 if the student chooses the Intensive Elementary & Intermediate Italian option (42 points, 12 of which count also toward the Language requirement), or 13 if the student chooses a combination between a regular sequence and an intensive course (44 points, 14 of which count also toward the Language requirement).

However, students with prior knowledge of Italian may be exempted from the prerequisites in one of three ways: a) by presenting a score of 4 or 5 on the Advanced Placement Italian Exam; b) by presenting a score of 780 or above on the SAT Subject Test in Italian; c) by obtaining a satisfactory score on the department's placement examination. Therefore, for them the overall number of courses required to pursue an Italian Major is 10 (30 points).

### Required Courses

Italian majors are required to take two sequences: a) a sequence of Advanced Italian Language courses and b) a sequence of courses in Italian Literature or Cultural Studies:

- Advanced Italian Language (this sequence should be taken in progressive order)
- Advanced Italian (ITAL UN3335). Advanced reading, writing, speaking with emphasis on authentic cultural materials. Topic and semester themes vary. Taught in Italian.
- Italian Language through Content. Course offerings under this category include courses such as: Italian through Cinema (ITAL UN3337); Italiana. Introduction to Italian Culture, the High, the Low, and the In-between (ITAL UN3338); Learning Italian in Class and Online: A Telecollaboration with Italy (ITAL UN3339); Art Itineraries: Italian through Art (ITAL UN3341); Business Italian and the Made in Italy Excellence: Learning Italian for trade and industry (ITAL UN3342); Advanced Italian: Comparative Stylistics & Translation (ITAL UN3343); Italy: Emigration-Immigration (ITAL UN3232); and Grand Tour in Italy (ITAL UN3645). These are all courses of Advanced Italian Language through a specific subject and with emphasis on cultural content. Taught in Italian.

and

- Italian Literature or Cultural Studies

Introduction to Italian Literature I and II (ITAL UN3333-4) provides an overview of major authors and works in the Italian literary tradition from the Middle Ages to the present. Taught in Italian. (This sequence does not need to be taken in progressive order.)

or

Italian Cultural Studies I and II (ITAL GU4502-3). An interdisciplinary investigation into Italian culture and society from national unification in 1860 to the present. Taught in English. (This sequence does not need to be taken in progressive order.)

### Elective Courses

With the permission of the Director of Undergraduate Studies, Italian majors select six additional courses from the department's 3000- or 4000-level offerings or from other Humanities and Social Science departments with a focus on Italian culture, society and history from the Middle Ages to the present (at least 50% of the material of courses offered outside of the Italian Department should focus on Italian topics). Students who have taken courses in Italian Literature, Italian History, and/or Italian Culture while abroad should consult with the Director of Undergraduate Studies to determine if the courses may be applicable to the Major.

Highly motivated students have the opportunity to pursue a senior thesis under the guidance of a faculty adviser in an area of Italian literature or culture of their choosing. The senior thesis tutorial (ITAL UN3993 Senior Thesis/Tutorial) will count for 3 points.

Majors in Italian are required to take at least two of the six elective courses from the Italian Department's offerings, which are not Language Through Content courses. The remaining four elective courses can include Language Through Content courses or offerings from other Humanities and Social Science departments and study abroad Programs.

Students pursuing an Italian Major should download and use the relevant [worksheet](#).

### Minor in Italian

The Minor in Italian is a smaller and more flexible course of study aiming to introduce students to Italian language, literature, history, and culture from the Middle Ages to the present day. Through a cluster of courses from the Italian Department, as well as from other Humanities and Social Science departments and approved study abroad programs, the Minor in Italian seeks to enhance students' knowledge of Italy in a globalized world.

The learning goals of the Minor in Italian are therefore:  
1) to give students an advanced-level knowledge of the

Italian language; and 2) to help students gain a deeper understanding of the literature, culture, and history of Italy.

### Design

The Minor in Italian requires a minimum of 15 points (5 courses).

### Prerequisites

The 15 required points (5 courses) do not include the necessary prerequisites, i.e., Intermediate II or a demonstrated equivalent level of knowledge of the Italian language.

For students who have no prior knowledge of Italian, the required sequence to cover the prerequisite is Elementary Italian I & II (UN1101-UN1102) and Intermediate Italian I & II (UN2101-UN2102), or Intensive Elementary Italian (ITAL UN1121) and Intensive Intermediate Italian (ITAL UN2121), or a combination between a regular sequence and an intensive course. Therefore, for a student who must take all coursework at Columbia (i.e., who does not enter Columbia with advanced placement) the overall number of courses required to pursue an Italian Minor is 9 (31 points, 16 of which count also toward the Language requirement). However, the overall number of courses required to pursue an Italian Major becomes either 7 if the student chooses the Intensive Elementary & Intermediate Italian option (27 points, 12 of which count also toward the Language requirement), or 8 if the student chooses a combination between a regular sequence and an intensive course (29 points, 14 of which count also toward the Language requirement).

However, students with prior knowledge of Italian may be exempted from the prerequisites in one of three ways: a) by presenting a score of 4 or 5 on the Advanced Placement Italian Exam; b) by presenting a score of 780 or above on the SAT Subject Test in Italian; c) by obtaining a satisfactory score on the department's placement examination. Therefore, for them the overall number of courses required to pursue an Italian Minor is 5 (15 points).

### Required Courses

Italian minors are required to take one of the following course sequences: a) Advanced Italian Language; b) Italian Literature; c) Italian Cultural Studies:

- Advanced Italian Language (this sequence should be taken in progressive order)
- Advanced Italian (ITAL UN3335). Advanced reading, writing, speaking with emphasis on authentic cultural materials. Topic and semester themes vary. Taught in Italian.
- Italian Language through Content. Course offerings under this category include courses such as: Italian through Cinema (ITAL UN3337); Italiana. Introduction to Italian Culture,

the High, the Low, and the In-between (ITAL UN3338); Learning Italian in Class and Online: A Telecollaboration with Italy (ITAL UN3339); Art Itineraries: Italian through Art (ITAL UN3341); Business Italian and the Made in Italy Excellence: Learning Italian for trade and industry (ITAL UN3342); Advanced Italian: Comparative Stylistics & Translation (ITAL UN3343); Italy: Emigration-Immigration (ITAL UN3232); and Grand Tour in Italy (ITAL UN3645). These are all courses of Advanced Italian Language through a specific subject and with emphasis on cultural content. Taught in Italian.

or

- Italian Literature

Introduction to Italian Literature I and II (ITAL UN3333-4) provides an overview of major authors and works in the Italian literary tradition from the Middle Ages to the present. Taught in Italian. (This sequence does not need to be taken in progressive order.)

or

- Italian Cultural Studies

Italian Cultural Studies I and II (ITAL GU4502-3). An interdisciplinary investigation into Italian culture and society from national unification in 1860 to the present. Taught in English. (This sequence does not need to be taken in progressive order.)

### Elective Courses

In addition to one of the above sequences, students pursuing the Minor in Italian will be asked to select three courses from the department's 3000- or 4000-level offerings or from other Humanities and Social Science departments with a focus on Italian culture, society and history from the Middle Ages to the present (at least 50% of the material of courses offered outside of the Italian Department should focus on Italian topics). Minors in Italian are required to take at least one of the three elective courses within the Italian Department's offerings which are not Language Through Content Courses, chosen in consultation with the Director of Undergraduate Studies.

Students pursuing an Italian Minor should download and use the relevant [worksheets](#).

### Minor in Mediterranean Studies

The Minor in Mediterranean Studies is a flexible course of study intended to introduce students to the various facets of the Mediterranean Sea from a cross-disciplinary perspective. Drawing on courses from within the Italian Department as well as departments and units across the university, the program seeks to enhance students' understanding of this culturally

diverse and politically important region of the world. It offers them the opportunity to explore the connections among the peoples living in this geographic area over a broad chronological span—from prehistoric times to the present—and to focus on issues that go beyond specific nations, cultures, and states, such as migration, cultural transfers, diversity, multilingualism, translation, border crossing, empires and colonialism, circulation of goods and ideas, islands, the physical environment, and resource management. The learning goals of the Minor in Mediterranean Studies are therefore: 1) to give students vital tools for thinking about the world from the perspective of an interconnected sea space and through a comparative and transnational point of view; and 2) to help students gain a deeper understanding of the history, and culture of the Mediterranean through an interdisciplinary path of study. Upon completion of the Minor, students should be able to have a basic knowledge of the ways in which the Mediterranean Sea has served over time as a medium of contact, exchange, and interaction among multiple societies, nations, religions, and languages, and use this knowledge to reconsider global relations in the world today.

### Design

The Minor in Mediterranean Studies requires a minimum of 15 points (5 courses).

### Prerequisites

There are no prerequisites.

### Required Courses

Minors in Mediterranean Studies are required to take the following two-semester sequence (not necessarily taken in progressive order). This sequence also **fulfills the Global Core requirement**:

- Mediterranean Humanities I (CLIA GU4499)

Course description: Mediterranean Humanities I explores the literatures of the Mediterranean from the late Middle Ages to the Early Nineteenth Century. We will read Boccaccio, and Cervantes, as well as Ottoman poetry, Iberian Muslim apocalyptic literature, and the Eurasian connected versions of the One Thousand and One Nights. We will dive into the travel of texts and people, stories and storytellers across the shores of the Middle Sea. Based on the reading of literary texts (love poetry, short stories, theater, and travel literature), as well as letters, biographies, memoirs, and other ego-documents produced and consumed in the Early Modern Mediterranean, we will discuss big themes such as Orientalism, estrangement, forced mobility, connectivity, multiculturalism and the clash of civilizations. Also, following in the footsteps of Fernand Braudel and Erich Auerbach, we will reflect on

the Mediterranean in the age of the first globalization as a laboratory of the modern global world and world literature.

- Mediterranean Humanities II (CLIA GU4500)

Course description: What is the Mediterranean and how was it constructed and canonized as a space of civilization? A highly multicultural, multilingual area whose people represent a broad array of religious, ethnic, social and political differences, the Mediterranean has been seen as the cradle of western civilization, but also as a dividing border and a unifying confluence zone: as a sea of pleasure and a sea of death. The course aims to enhance students' understanding of the multiple ways this body of water has been imagined by the people who lived or traveled across its shores. By exploring major works of theory, literature and cinema since 1800, it encourages students to engage critically with a number of questions (nationalism vs cosmopolitanism, South/North and East/West divides, tourism, exile and migration, colonialism and orientalism, borders and divided societies) and to 'read' the sea through different viewpoints. In the final analysis, Med Hum II is meant to engage the question of what it means to stand on watery grounds and to view the world through a constantly shifting lens.

### Elective Courses

In addition to these two Global Core courses, students pursuing the Minor in Mediterranean Studies will take **three elective courses**. **One** should be from the Mediterranean offerings of the Italian Department, while the other **two** can be from other departments and units across the university. The approved courses should adopt a Mediterranean transnational, comparative or regional perspective, engage with issues on a cross-Mediterranean scale (such as migration, cultural transfers, translation, borders, contacts and conflicts, empires and colonialism, islands, circulation of goods and ideas, common environmental and resource management questions), or place their particular topics within a Mediterranean framework (at least 50% of the course material should fulfill these requirements). Students pursuing a Minor in Mediterranean Studies should download and use the relevant [worksheet](#).

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

Concentrations are available to students who entered Columbia in or before Fall 2023. The requirements for the Bachelor of Arts degree, and the role of the concentration in those requirements, can be found in the Academic

Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study. Concentrations are not available to students who entered Columbia in or after Fall 2024.

## Concentration in Italian

The Concentration in Italian requires a minimum of 24 points (8 courses).

### Prerequisites

The 24 required points (8 courses) do not include the necessary prerequisites, i.e., Intermediate II or a demonstrated equivalent level of knowledge of the Italian language.

For students who have no prior knowledge of Italian, the required sequence to cover the prerequisite is Elementary Italian I & II (UN1101-UN1102) and Intermediate Italian I & II (UN2101-UN2102), or Intensive Elementary Italian (ITAL UN1121) and Intensive Intermediate Italian (ITAL UN2121), or a combination between a regular sequence and an intensive course. Therefore, for a student who must take all coursework at Columbia (i.e., who does not enter Columbia with advanced placement) the overall number of courses required to pursue an Italian Concentration is 12 (40 points, 16 of which count also toward the Language requirement). However, the overall number of courses required to pursue an Italian Major becomes either 10 if the student chooses the Intensive Elementary & Intermediate Italian option (36 points, 12 of which count also toward the Language requirement), or 11 if the student chooses a combination between a regular sequence and an intensive course (38 points, 14 of which count also toward the Language requirement).

However, students with prior knowledge of Italian may be exempted from the prerequisites in one of three ways: a) by presenting a score of 4 or 5 on the Advanced Placement Italian Exam; b) by presenting a score of 780 or above on the SAT Subject Test in Italian; c) by obtaining a satisfactory score on the department's placement examination. Therefore, for them the overall number of courses required to pursue an Italian Concentration is 6 (24 points).

### Required Courses

Italian concentrators are required to take two sequences: a) a sequence of Advanced Italian Language courses and b) a sequence of courses in Italian Literature or Cultural Studies:

- Advanced Italian Language (this sequence should be taken in progressive order)

- Advanced Italian (ITAL UN3335). Advanced reading, writing, speaking with emphasis on authentic cultural materials. Topic and semester themes vary. Taught in Italian.

- Italian Language through Content. Course offerings under this category include courses such as: Italian through Cinema (ITAL UN3337); Italiana. Introduction to Italian Culture, the High, the Low, and the In-between (ITAL UN3338); Learning Italian in Class and Online: A Telecollaboration with Italy (ITAL UN3339); Art Itineraries: Italian through Art (ITAL UN3341); Business Italian and the Made in Italy Excellence: Learning Italian for trade and industry (ITAL UN3342); Advanced Italian: Comparative Stylistics & Translation (ITAL UN3343); Italy: Emigration-Immigration (ITAL UN3232); and Grand Tour in Italy (ITAL UN3645). These are all courses of Advanced Italian Language through a specific subject and with emphasis on cultural content. Taught in Italian.

and

- Italian Literature or Cultural Studies

Introduction to Italian Literature I and II (ITAL UN3333-4) provides an overview of major authors and works in the Italian literary tradition from the Middle Ages to the present. Taught in Italian. (This sequence does not need to be taken in progressive order.)

or

Italian Cultural Studies I and II (ITAL GU4502-3). An interdisciplinary investigation into Italian culture and society from national unification in 1860 to the present. Taught in English. (This sequence does not need to be taken in progressive order.)

### Elective Courses

With the permission of the Director of Undergraduate Studies, Italian concentrators select four additional courses from the department's 3000- or 4000-level offerings or from other Humanities and Social Science departments with a focus on Italian culture, society and history from the Middle Ages to the present (at least 50% of the material of courses offered outside of the Italian Department should focus on Italian topics). Students who have taken courses in Italian Literature, Italian History, and/or Italian Culture while abroad should consult with the Director of Undergraduate Studies to determine if the courses may be applicable to the Concentration.

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## JAZZ STUDIES\*

\*Jazz Studies is offered exclusively as a concentration.



**The Center for Jazz Studies:** Prentiss Hall, 4th floor (632 W. 125th Street); 212-851-9270  
<http://www.columbia.edu/cu/cjs>

### **Jazz at Columbia:**

Louis Armstrong Jazz Performance Program (LAJPP)

**Director of Center for Jazz Studies:** Prof. Kevin Fellezs, 806 Dodge Hall, 212-854-6689, [kf2362@columbia.edu](mailto:kf2362@columbia.edu)

**Director of Jazz Performance:** Prof. Ole Mathisen, 621 Dodge Hall; 212-854-3825; [om2141@columbia.edu](mailto:om2141@columbia.edu) ([cjw5@columbia.edu](mailto:cjw5@columbia.edu))

**Program Administrator:** Yulanda McKenzie, 602 Philosophy; 212-851-9270; [ym189@columbia.edu](mailto:ym189@columbia.edu)

*Starting in Fall '24, the Special Concentration in Jazz Studies is no longer available for students to declare. Students who declared the Special Concentration in Jazz Studies in Spring '24 or prior are allowed to complete this concentration.*

The Special Concentration in Jazz Studies is an interdisciplinary liberal arts course of study that uses jazz music—and the jazz culture from which the music emanated—as a prism through which to study jazz culture during what might be termed the long jazz century, the Sprawling 20's. The curriculum in this field guides students in developing a firm grounding in the traditions and aesthetic motives of jazz music, viewed through the perspectives of music history and ethnomusicology as well as literary theory and cultural studies.

The program also explores in depth the development of jazz-oriented art works in the music's sister arts—literature, dance, painting, photography, and film. While a U.S. focus is highly appropriate, considering the many ways in which jazz is a definitive music of this nation, students also explore jazz's geographical history beyond these shorelines, including complex, ongoing interactions with Africa, the Caribbean, Europe, and Asia.

While there are some fields where the fit with jazz studies is very obvious—music, American studies, African-American studies, English, comparative literature, and history—students can major in any field whatsoever. Is there a jazz or improvisatory philosophy? What might be its relation to studies of aesthetics or American pragmatism? And what are jazz's implications for the student of law? How does one protect the intellectual property rights of an improvised jazz solo? What about business? What economic and political forces have shaped jazz? Who buys jazz? What is its audience? What is a jazz painting? A jazz novel? What is jazz poetry? What is jazz dance? What is a jazz film? What are the sources and meanings of art? What work does the music do for the whole community?

Along with problems of musical history, form, and definition, our courses explore jazz as a culture. Students not only study individual jazz artists but also explore the immeasurably variegated worlds through which such artists moved, and which they helped to shape. As cultural historians-in-training—focused on questions of nationality, race, sexuality, gender, economics, and politics—students explore the extraordinarily complicated terrains of the New Orleans of Bunk Johnson, for example, or the Baltimore of Billie Holiday (born in Philadelphia, reared in Baltimore). They explore such artists' other geographical travels. What did their images, including mistaken conceptions of who they were, tell us about the cultures that mythologized them?

How did these jazz musicians influence not only musicians but other artists of their era and milieu: the poets and novelists, painters and sculptors, photographers and filmmakers, dancers and choreographers who regularly heard them play and often shared with them a sense of common project?

One thinks of Tito Puente, working with singers and dancers at the Palladium; Jackson Pollack dancing to the music as he spun drips of paints on canvasses placed on the studio floor; Langston Hughes writing detailed instructions to the musicians he hoped would accompany performance of his poetry; Romare Bearden's beautifully turned stage and costume designs for Alvin Ailey and Dianne McIntyre, whose improvisatory jazz dance workshop was called Sound in Motion; the drummer Jo Jones in an interview naming as key influences a series of tap dancers he admired; Stanley Crouch, stirring in his high-powered essays in a room where jazz drums stand at the center, the old dream-kit inspiration; Ralph Ellison, who kept in touch with his beginnings as a musician in Oklahoma City through hour-long conversations with his childhood friend, the singer Jimmy Rushing; Toni Morrison reading her magical prose to improvisations by Max Roach and the dancer Bill T. Jones; and the pianist Jason Moran playing at the Studio Museum in Harlem, where he introduced his group as including Beauford Delany, whose paintings hung on the wall near the bandstand—vigorous all and recall across the art forms.

Perhaps above all, the Special Concentration in Jazz Studies is designed to prepare students to be well-prepared and flexible improvisers in a universe of change and possibility.

## **INTERDEPARTMENTAL COMMITTEE ON JAZZ STUDIES**

Ann Douglas (English and Comparative Literature)  
 Brent Hayes Edwards (English and Comparative Literature)  
 Kevin A. Fellezs (Music)  
 Aaron Fox (Music)  
 Farah Jasmine Griffin (English and Comparative Literature)  
 George Lewis (Music)



Robert G. O’Meally (English and Comparative Literature)  
Christopher Washburne (Music)

# ADJUNCT LECTURERS IN JAZZ PERFORMANCE

Paul Bollenbeck  
Christine Correa  
Krin Gabbard  
David Gibson  
Brad Jones  
Victor Lin  
Ole Mathisen  
Tony Moreno  
Ugonna Okegwa  
Adriano Santos  
Don Sickler  
Leo Traversa  
Ben Waltzer

**Special Concentration in Jazz Studies (For students who declared the concentration on or before the 2023-2024 academic year)**

Starting in Fall '24, the Special Concentration in Jazz Studies is no longer available for students to declare. Students who declared the Special Concentration in Jazz Studies in Spring '24 or prior are allowed to complete this concentration.

The special concentration in jazz studies requires a total of seven courses (21 points minimum), distributed as follows:

## Requirements for Non-Music Majors/ Concentrators

MUSI UN1002	FUNDAMENTALS OF MUSIC
MUSI UN2016	JAZZ
MUSI UN3998	SUPERVISED INDEPENDENT STUDY
ENGL GU4612	JAZZ AND AMERICAN CULTURE

(3) interdisciplinary courses as approved by the director  
Private music lessons (strongly recommended but not required)  
MPP UN1541 CU Jazz Ensembles (strongly recommended but not required)

## Requirements for Music Majors/ Concentrators

MUSI UN2016	JAZZ
MUSI UN3998	SUPERVISED INDEPENDENT STUDY
MUSI GU4500	JAZZ TRANSCRIPTION # ANALYSIS
MUSI GU4505	JAZZ ARRANGING # COMPOSITION

ENGL GU4612 JAZZ AND AMERICAN CULTURE

(2) interdisciplinary courses as approved by the director  
Private music lessons (strongly recommended but not required)  
MPP UN1541 CU Jazz Ensembles (strongly recommended but not required)

# JEWISH STUDIES\*

**\*Jewish Studies is offered exclusively as a concentration.**

## THE INSTITUTE FOR ISRAEL AND JEWISH STUDIES:

Department website: <http://www.iijs.columbia.edu/>

Office location: 617 Kent Hall

Office contact: 212-854-2581, [iijs@columbia.edu](mailto:iijs@columbia.edu) (<http://www.iijs.columbia.edu/>)

**Program Director:** Dr. Isabelle Levy, [icl2001@columbia.edu](mailto:icl2001@columbia.edu) ([icl2001@columbia.edu](mailto:icl2001@columbia.edu))

## JEWISH STUDIES

The academic discipline of Jewish Studies is an interdisciplinary field centered on the analysis and investigation of Jewish history, religion, cultures, languages, and literatures. The discipline ranges from the study of Jews and Judaism in antiquity to the present day. It explores Judaism not only as a religion, but also as a civilization and culture.

A minor in Jewish Studies is available for undergraduates and allows students to draw upon classes in a wide range of departments across the University, including, but not limited to, History; Sociology; Middle Eastern, South Asian, and African Studies; Germanic Languages; Music; Film; and Religion. The requirements for the minor are designed to provide students with the interdisciplinary knowledge necessary to pursue Jewish Studies both broadly and deeply.

The roots of Judaism lie deeper than one region, gender, language, or culture, and by studying the interconnectedness of these areas, the depth of understanding across a range of spheres and disciplines greatly increases. The minor in Jewish Studies provides students with an opportunity to expand their knowledge according to their particular interests and can likewise complement an array of majors across academic disciplines.

Students wishing to complete a minor in Jewish Studies work with Program Director Dr. Isabelle Levy to decide upon course selection and sequencing. The program office provides and keeps on record a planning form to track the fulfillment of requirements for the minor.

## STUDENT ADVISING

### Consulting Advisers

Please reach out to our Program Director, Dr. Isabelle Levy, at [icl2001@columbia.edu](mailto:icl2001@columbia.edu) for any advising needs

### Enrolling in Classes

IIJS courses are available for registration through Vergil. Professors will often give enrollment priority to Jewish Studies minors if you contact them directly. If you have any questions about which classes apply towards the Minor in Jewish Studies, please contact our Program Director, Dr. Isabelle Levy, at [icl2001@columbia.edu](mailto:icl2001@columbia.edu).

### Preparing for Graduate Study

Jewish Studies students continue on to graduate study in a variety of fields. Please reach out to our Program Director, Dr. Isabelle Levy, at [icl2001@columbia.edu](mailto:icl2001@columbia.edu) for any advising needs.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

Students will not be able to apply advanced placement credit towards the minor.

### Barnard College Courses

Certain Barnard College courses may be applied towards the minor. Several Barnard courses are cross-listed with Jewish Studies. If you have any questions about which classes apply towards the Minor in Jewish Studies, please contact our Program Director, Dr. Isabelle Levy, at [icl2001@columbia.edu](mailto:icl2001@columbia.edu).

### Transfer Courses

Students may request permission on a case-by-case basis to apply one course each of transfer coursework and study abroad coursework to the minor. If you have any questions about which classes apply towards the Minor in Jewish Studies, please contact our Program Director, Dr. Isabelle Levy, at [icl2001@columbia.edu](mailto:icl2001@columbia.edu).

### Study Abroad Courses

Students may request permission on a case-by-case basis to apply one course each of transfer coursework and study abroad coursework. If you have any questions about which classes apply towards the Minor in Jewish Studies, please contact our Program Director, Dr. Isabelle Levy, at [icl2001@columbia.edu](mailto:icl2001@columbia.edu).

### Summer Courses

Some summer courses may be applied toward the minor. If you have any questions about which classes apply towards

the Minor in Jewish Studies, please contact our Program Director, Dr. Isabelle Levy, at [icl2001@columbia.edu](mailto:icl2001@columbia.edu).

## CORE CURRICULUM CONNECTIONS

In addition to finding intellectual links among their coursework, Core Curriculum courses, and major study coursework, Jewish Studies students may choose to take Global Core courses that contain Jewish Studies content. As is College policy, two courses that fulfill either the Global Core or the science requirement can be double-counted toward the Core requirements and toward one of your programs of study.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

Jewish Studies students will have the opportunity to meet with Jewish Studies Librarian Michelle Margolis and to consult Columbia's Jewish Studies research collections, which exceeds 150,000 monographs; 1,000 periodical titles; 60,000 Hebrew and Yiddish titles; Jewish scholarly works in Western and Slavic languages; and 1,700 Hebrew and Jewish-language (e.g., Judeo-Arabic) manuscripts—the largest collection of Judaica manuscripts in any secular research university.

### Undergraduate Research in Courses

Most Jewish Studies courses, as well as cross-listed courses that count towards the Minor, include a research component. Instructors will support students in completing research projects.

The Jewish Studies curriculum includes for-credit faculty-advised independent research. Students may reach out to our Program Director, Dr. Isabelle Levy, at [icl2001@columbia.edu](mailto:icl2001@columbia.edu) with questions about undergraduate research.

## DEPARTMENT HONORS AND PRIZES

Students on track to complete the Jewish Studies minor may apply for limited summer research funding at the discretion of the IIJS faculty. Please reach out to our Program Director, Dr. Isabelle Levy, at [icl2001@columbia.edu](mailto:icl2001@columbia.edu) with questions.

## AFFILIATED FACULTY

Beth Berkowitz (Religion, Barnard)  
 Clemence Boulouque (Religion)  
 Elisheva Carlebach (History)  
 Yinon Cohen (Sociology)  
 Jeremy Dauber (Germanic Languages)  
 Ofer Dynes (Slavic Languages and Literatures)  
 Rebecca Kobrin (History)  
 Agnieszka Legutko (Germanic Languages)

Seth Schwartz (History)  
Michael Stanislawski (History)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Please reach out to our Program Director, Dr. Isabelle Levy, at [icl2001@columbia.edu](mailto:icl2001@columbia.edu) for any advising needs.

### Course Numbering Structure

Undergraduate coursework is offered at the 2000, 3000, and 4000 levels. Undergraduate courses are worth 3 or 4 points. Many Jewish Studies courses are cross-listed in other departments, including History; Germanic Languages; Middle Eastern, South Asian, and African Studies; Religion; Slavic Languages; Music; and Sociology. Some 5000 or 6000 level courses may be available for undergraduate enrollment, at the discretion of the instructor.

### Guidance for First-Year Students

Please reach out to our Program Director, Dr. Isabelle Levy, at [icl2001@columbia.edu](mailto:icl2001@columbia.edu) for any advising needs.

### Guidance for Transfer Students

Please reach out to our Program Director, Dr. Isabelle Levy, at [icl2001@columbia.edu](mailto:icl2001@columbia.edu) for any advising needs.

## UNDERGRADUATE PROGRAMS OF STUDY

### Minor in Jewish Studies

In addition to the requirements of the minor, students must complete a major.

Students are required to complete five Jewish Studies courses comprising between 15 to 20 points, depending on the number of points of each course. Introductory language study that complements the student's Jewish Studies coursework may constitute one of these courses. Languages may include (but are not limited to) Arabic, Aramaic, French, Greek, Hebrew, Russian, and Yiddish and should be relevant to the student's other coursework in Jewish Studies. Language courses at the advanced level that are conducted in the language and that require reading and writing in the language may count as an additional course.

Jewish Studies students may choose to take Global Core courses that contain Jewish Studies content. As is College policy, two courses that fulfill either the Global Core or the science requirement can be double-counted toward the Core requirements and toward one of your programs of study.

### Jewish Studies Courses\*

(\*not all available in a given semester/year)

Music JWST UN2155 Music, Sound, and Antisemitism

Religion UN2306 INTRO TO JUDAISM

History UN2611 JEWS & JUDAISM IN ANTIQUITY

Sociology UN3285 ISRAELI SOC & ISR-PLS CONFLICT

Religion UN3301 INTRODUCTION TO HEBREW BIBLE

SPJS UN3303 Jewish Literature in Translation in the Medieval Mediterranean

Yiddish UN3500 SURVEY OF YIDDISH LIT (ENG)

CLYD UN3500 Human in Modern Jewish Literature

History UN3604 JEWS AND THE CITY

Music GU4113 Medieval Mediterranean Love Songs

Jewish Studies GU4145 Topics in Israeli Cinema

Jewish Studies GU4147 Between Tradition & Innovation: Readings

Jewish Studies GU4156 An Introduction to World Zionist Thought

Jewish Studies GU4157 Israeli Politics in Times of Turmoil

Jewish Studies GU4149 A History of Jewish-Muslim Encounters

Jewish Studies GU4153 U.S. Civil and Human Rights Lawyers

Jewish Studies GU4154 Magic in Jewish History and Culture

CLYD GU4250 Memory & Trauma in Yiddish Literature

Women's Studies GU4336 GENDER AND Sexuality in Yiddish Literature

GU4509 CRIME/PUNISHMENT-JEWISH CULTURE

History GU4525 Immigrant New York

Sociology GU4801 Israel and the Palestinians

English GU4938 HISTORY OF HORROR

Jewish Studies GU4990 Topics in Jewish Studies

Sociology GR6160 ISRAELI SOCIETY - SPEC TOPICS

Sociology GR6161 Dynamics of the Israeli-Palest

Religion GR6420 RELIGION & PUBLIC LIFE

History GR8132 THE JEWISH BOOK IN EARLY MOD WORLD

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Special Concentration in Jewish Studies

In addition to the requirements of the special concentration, students must complete a major.

For a special concentration in Jewish studies, students are required to complete a minimum of 21 points. Please note:

- At least one course must be taken from each of three of the focus areas listed below.
- Credits for language courses may constitute at most 10 points, and one year of Hebrew or Yiddish language is strongly recommended.
- A minimum of 18 points must be taken at Columbia or as part of an approved study abroad program (unless equivalent courses are not offered at Columbia, as determined by the faculty adviser).

The focus areas listed below are examples. Additionally, as new courses are introduced, new focus areas may develop. Some courses may fall under multiple headings. Determination of a course's focus area is at the discretion of the faculty adviser.

#### Focus Areas

**Bible and Rabbinics/Ancient Judaism**

**Medieval Judaism**

**Modern Judaism**

**Israeli Society**

**Gender and Judaism**

**Jewish History and Culture**

**Jewish Literature**

## LATIN AMERICAN AND CARIBBEAN STUDIES

### THE INSTITUTE OF LATIN AMERICAN STUDIES:

Department website: <https://ilas.columbia.edu/>

Office location: 8th Floor International Affairs Building

Office contact: 212-854-4643; [ek2159@columbia.edu](mailto:ek2159@columbia.edu)

Director of Undergraduate Studies: M. Victoria Murillo, [mm2140@columbia.edu](mailto:mm2140@columbia.edu)

Senior Manager of Business & Students Affairs: Eliza Kwon-Ahn, [ek2159@columbia.edu](mailto:ek2159@columbia.edu)

## THE STUDY OF LATIN AMERICAN & CARIBBEAN STUDIES

The major in Latin American and Caribbean Studies stresses knowledge of a dynamic, historically deep and extensive region, but it also focuses on social, political, and cultural phenomena that transcend physical boundaries. The major thus reflects multidisciplinary dialogues that are transnational yet remain anchored in the common historical experience of Latin American societies. Thanks to the broad range of courses on Latin America offered in different departments of instruction and centers at Columbia, the major provides a multidisciplinary training on politics, history, culture, economy and society.

The Institute of Latin American Studies coordinates the major and offers access to research support, study abroad options, and linkages and credits toward the M.A. program in Latin American and Caribbean studies.

### STUDENT ADVISING

For general advising, please contact ILAS Senior Manager of Business & Student Affairs Eliza Kwon-Ahn [ek2159@columbia.edu](mailto:ek2159@columbia.edu)

### Preparing for Graduate Study

Please contact the DUS Prof. M. Victoria Murillo [mm2140@columbia.edu](mailto:mm2140@columbia.edu)

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

Not applicable

### Barnard College Courses

Not applicable

### Transfer Courses

Students are allowed to receive course credit for study abroad only. To find out more, please see "Study Abroad Courses"

### Study Abroad Courses

Students are encouraged to study abroad during their Junior years. The program accepts up to 12 credits for the disciplinary of choice for the major and up to 3 credits for the minor. Interested students should submit the syllabi and all the coursework related to each course prior to traveling for approval by the DUS.

### Summer Courses

Not applicable



## CORE CURRICULUM CONNECTIONS

Many of the interdisciplinary courses for the program may partially satisfy Global core requirements. Not all courses are offered every semester, but there are ample opportunities to take these courses:

HIST UN2618: The Modern Caribbean

HIST UN2660: Latin American Civilization I

HIST UN2661: Latin American Civilization II

LACV UN1020: Primary Texts of Latin American Civilization

HIST GU4301: Politics and Justice in Latin America through Crime Fiction

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

Students in the major track will have opportunities to develop their own research as part of the required seminar course. Students can work independently with a professor for one seminar or if accepted, take the graduate seminar courses for the MA students in Latin American & Caribbean Studies (LCRS G6400 and G6401).

For more information, please contact Eliza Kwon-Ahn at [ek2159@columbia.edu](mailto:ek2159@columbia.edu).

### Senior Thesis Coursework and Requirements

not applicable

### Undergraduate Research Outside of Courses

not applicable

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Departmental Honors are awarded to no more than 10% of graduating majors (including October, February and May graduates); students should have a GPA of at least 3.6 in major courses in order to be considered for Departmental Honors; and students should have successfully completed an honors thesis, or an equivalent project of high quality.

Students may work independently with a professor or if accepted, take the graduate seminar courses for the MA students in Latin American & Caribbean Studies (LCRS G6400 and G6401).

## Academic Prizes

Not applicable

## OTHER IMPORTANT INFORMATION

ILAS website: <https://ilas.columbia.edu/>

ILAS Undergraduate Program: <https://ilas.columbia.edu/content/undergraduate>

ILAS Undergraduate Research and Internship Grants and Summer FLAS Fellowship:

<https://ilas.columbia.edu/content/funding-opportunities-students>

For language placement: <https://laic.columbia.edu/content/language-placement-examination>

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

For additional information on Latin American and Caribbean Studies, please visit the Institute's [website](#) or contact Eliza Kwon-Ahn, Senior Manager of Business & Student Affairs, at [ek2159@columbia.edu](mailto:ek2159@columbia.edu).

### Program Planning for all Students

Not applicable

### Course Numbering Structure

Not applicable

### Guidance for First-Year Students

Students interested in Latin American & Caribbean Studies are encouraged to take one of the following 3 history courses:

1. HIST UN2660: Latin American civilization, I
2. HIST UN2661: Latin American civilization, II
3. LACV CC1020: Primary Texts of Latin American Civilization

These above courses will fulfill the global core requirement and give students the historical foundation as Latin America as a whole.

### Guidance for Transfer Students

Students interested in Latin American & Caribbean Studies are encouraged to take one of the following 3 history courses:



1. HIST UN2660: Latin American civilization, I
2. HIST UN2661: Latin American civilization, II
3. LACV CC1020: Primary Texts of Latin American Civilization

These above courses will fulfill the global core requirement and give students the historical foundation as Latin America as a whole.

If a transfer student has taken a similar course in a previous institution, we encourage students to consult the DUS for course replacement.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

Students interested in the major or the minor should start taking one of the following 3 courses:

1. HIST UN2660: Latin American civilization, I
2. HIST UN2661: Latin American civilization, II
3. LACV CC1020: Primary Texts of Latin American Civilization

### Major in Latin American and Caribbean Studies

The major requires a minimum of 31 points as follows:

Select five of the following fourteen courses. One of these courses must be Latin American Civilization I (HIST UN2660), Latin American Civilization II (HIST UN2661) or Primary Texts in Latin American Civilization (LACV UN1020):

CLEN GU4644	REVOLUTION IN/ON THE CARIBBEAN
HIST UN1786	History of the City in Latin America
HIST UN2618	THE MODERN CARIBBEAN
HIST UN2660	LATIN AMERICAN CIVILIZATION I
HIST UN2661	LATIN AMERICAN CIVILIZATION II
HIST BC2664	FAMILIES LATIN AMERICA
HIST BC2676	LATIN AMERICA: MIGRATION, RACE, AND ETHNICITY
HIST BC2681	WOMEN AND GENDER IN LATIN AMERICA
HIST GU4301	Politics and Justice in Latin America through Crime Fiction
LACV UN1020	PRIM TEXTS OF LATIN AMER CIV

POLS UN3560	PLCS URBAN DEV LATIN AMERICA
POLS UN3565	DRUGS # POLITICS IN AMERICAS
POLS GU4461	Latin American Politics
SPAN UN3300	ADV LANGUAGE THROUGH CONTENT

**\*\*\* The SPAN UN3300 section taken for the Major must focus on Latin America. Please contact the ILAS Student Affairs Coordinator for details.**

### Language Requirement

Select one course on Spanish, Portuguese, or an indigenous language at the intermediate or advanced level; if students can demonstrate advance knowledge of one of these languages, they can replace this course with an area studies course.

### Discipline of Choice

Select four courses in a discipline or theme of choice with substantive focus on Latin America. One of these courses must be a seminar. All students, however, need to take at least two courses in a discipline or theme outside of their specialization. The director of undergraduate studies advises students on areas of specialization and must approve courses with substantial Latin American or Caribbean contents not included in the list of eligible courses.

Up to 12 credits for Discipline of Choice requirement can be earned through study abroad. Students are encouraged to explore study abroad options before their junior year. Upon return, they should submit the syllabi and all coursework related to each course taken abroad for approval by the director of undergraduate studies.

### Minor in Latin American & Caribbean Studies

The minimum number of credits is 15 (5 courses).

A. CORE COURSES: At least One (1) courses from the following Four (4) courses.

1. HIST UN2660: Latin American civilization, I
2. HIST UN2661: Latin American civilization, II
3. LACV CC1020: Primary Texts of Latin American Civilization
4. POLS GU4461: Latin American Politics

B. SPECIALIZED LECTURE/SEMINAR COURSES: At least Two (2) from the following Ten (10) courses.

1. ASFB GU4100: Slavery and Freedom in Latin America
2. CLEN GU4644: Revolution in/on the Caribbean
3. HIST UN1786: History of the City in Latin America

4. HIST UN2618: The Modern Caribbean
5. HIST BC2676: Reproducing Inequalities: Families in Latin America
6. HIST BC2681: Women and Gender in Latin America
7. HIST GU4301: Politics and Justice in Latin America through Crime Fiction
8. POLS UN3560: Political Urban Development in Latin America
9. POLS V3565: Drugs and Politics in the Americas
10. SPAN UN3300: Advanced Language through Content (with Latin American focus)

C. SEMINAR COURSE: Students will take one seminar course in any department with DUS approval to develop an in-depth topic in the region.

Up to 3 credits (1 course) can be earned through study abroad. Students are encouraged to explore study abroad options before their junior year. Prior to traveling, they should submit the syllabi and all coursework related to each course taken abroad for approval by the director of undergraduate studies.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Latin American and Caribbean Studies

The concentration requires a minimum of 18 points as follows:

Select three of the following fourteen courses. One of these courses must be in Latin American Civilization I (HIST UN2660), Latin American Civilization II (HIST UN2661) or Primary Texts in Latin America (LACV UN1020):

CLEN GU4644	REVOLUTION IN/ON THE CARIBBEAN
HIST UN1786	History of the City in Latin America
HIST UN2618	THE MODERN CARIBBEAN
HIST UN2660	LATIN AMERICAN CIVILIZATION I
HIST UN2661	LATIN AMERICAN CIVILIZATION II
HIST BC2664	FAMILIES LATIN AMERICA
HIST BC2676	LATIN AMERICA: MIGRATION, RACE, AND ETHNICITY

HIST BC2681	WOMEN AND GENDER IN LATIN AMERICA
HIST GU4301	Politics and Justice in Latin America through Crime Fiction
LACV UN1020	PRIM TEXTS OF LATIN AMER CIV
POLS UN3560	PLCS URBAN DEV LATIN AMERICA
POLS UN3565	DRUGS # POLITICS IN AMERICAS
POLS GU4461	Latin American Politics
SPAN UN3300	ADV LANGUAGE THROUGH CONTENT

**\*\*\* The SPAN UN3300 section taken for the Concentration must focus on Latin America. Please contact the ILAS Student Affairs Coordinator for details.**

#### Language Requirement

Select one course on Spanish, Portuguese, or an indigenous language at the intermediate or advanced level; if students can demonstrate advance knowledge of one of these languages, they can replace this course with an area studies course.

#### Discipline of Choice:

Select two courses in a discipline or theme of choice with substantive focus on Latin America. One of these courses must be a seminar. All students, however, need to take at least one course in a discipline or theme outside of their specialization. The director of undergraduate studies advises students on areas of specialization and must approve courses with substantial Latin American or Caribbean contents not included in the list of eligible courses.

The concentration requires a minimum of 18 points as follows: Up to 6 credits for the Discipline of Choice requirement can be earned through study abroad. Students are encouraged to explore study abroad options before their junior year. Prior to traveling, they should submit the syllabi and all coursework related to each course taken abroad for approval by the director of undergraduate studies.

## LATIN AMERICAN AND IBERIAN CULTURES

#### Departmental Office:

101 Casa Hispánica | 612 W. 116th Street | (212) 854-4187  
<http://www.laic.columbia.edu/>

#### Interim Director of Undergraduate Studies:

Dr. Lee B. Abraham | [lba2133@columbia.edu](mailto:lba2133@columbia.edu)

#### Director of Graduate Studies:

Prof. Alberto Medina | [am3149@columbia.edu](mailto:am3149@columbia.edu)

**Director of the Spanish Language Program:**

Dr. Lee B. Abraham | 402 Casa Hispánica | (212) 854-3764  
| [lba2133@columbia.edu](mailto:lba2133@columbia.edu)

**Director of the Portuguese Language Program:**

José Antonio Castellanos-Pazos | 501 Casa Hispánica | (212) 854-0277 | [jc846@columbia.edu](mailto:jc846@columbia.edu)

**Director of the Catalan Language Program:**

Elsa Úbeda | [eu2130@columbia.edu](mailto:eu2130@columbia.edu)

The Department of Latin American and Iberian Cultures (LAIC) at Columbia, located in the Casa Hispánica, has long enjoyed an international reputation as a center for Hispanic and Lusophone studies. The department provides linguistic preparation in Spanish, Portuguese, and Catalan, and offers a flexible program to study manifestations of the Hispanic and Lusophone worlds in all historical periods—from the medieval to the globalized present—and in a variety of cultural contexts: the Iberian Peninsula, Latin America, the former colonies of Portugal, and the United States.

Students can enter the program at any level of linguistic and cultural preparedness. The department offers a placement exam to determine the level at which students may either begin or continue study. Majors and concentrators in Hispanic studies and Portuguese studies are typically double majors who bring insights and methods from fields such as history, political science, women's studies, anthropology, economics, Latino studies, Latin American studies, etc., which fosters engaging discussions.

## ACADEMIC PROGRAMS

The department offers two majors. The major in Hispanic studies gives students a well-rounded preparation in the history and culture of the Hispanic world. The second option, a major in Hispanic studies with specialization, allows students to study the Hispanic world through a number of fields, among them Latin American studies, gender studies, political science, economics, history, and sociology. The department also offers two concentrations: Hispanic studies and Portuguese studies.

The language and major programs have also been designed in close consultation and cooperation with Barnard's Department of Spanish and Latin American Cultures. All courses taken in one program may be used to fulfill the requirements of the other. Hence, Columbia and Barnard students may move freely between departments of both institutions for courses that best fit their intellectual interests and schedules.

## ADVANCED PLACEMENT

The department grants 3 credits for a score of 5 on the AP Spanish Language exam, which satisfies the foreign language requirement. Credit is awarded upon successful

completion of a 3300-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in Spanish. Courses taught in English may not be used for language AP credit.

The department grants 0 credits for a score of 4 on the AP Spanish Language exam, but the foreign language requirement is satisfied.

The department grants 3 credits for a score of 5 on the AP Spanish Literature exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion of a 3300-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in Spanish. Courses taught in English may not be used for language AP credit.

The department grants 0 credits for a score of 4 on the AP Spanish Literature exam, but the foreign language requirement is satisfied.

## STUDY ABROAD

The department strongly recommends that all Hispanic and Portuguese studies majors/concentrators study abroad. Most courses taken abroad can be used to fulfill the requirements for the major and concentration, and with adequate planning, even some of the requirements for a second major or concentration. A maximum of four (4) courses taken abroad may be applied to the major, and a maximum of three (3) to the concentration in Hispanic or Portuguese studies.

All students are strongly advised to take either SPAN UN3349 HISPANIC CULTURES I (SP) or SPAN UN3350 HISPANIC CULTURES II (SP) before studying abroad. Actual or potential majors and concentrators in Hispanic or Portuguese studies should seek tentative approval of their programs from the director of undergraduate studies before their departure.

## THE HISPANIC INSTITUTE

The department hosts the Hispanic Institute at Columbia. Founded in 1920 as the Instituto de las Españas, the Institute sponsors and disseminates research on Hispanic and Luso-Brazilian culture. Since 1934, the Institute has published the *Revista Hispánica Moderna*, a distinguished journal in Hispanic criticism and theory.

## IN FULFILLMENT OF THE LANGUAGE REQUIREMENT

For students with no knowledge of Spanish, Portuguese, or Catalan, at least four terms of the language are required: UN1101-UN1102 (or UN1120) and UN2101-UN2102 (or UN2120). **All courses must be taken for a letter grade to fulfill the language requirement.**

Students with prior knowledge of Spanish who plan to continue studying Spanish are required to take the

department's on-line placement examination before registering for courses. Students with prior knowledge of Portuguese or Catalan should speak with the director of language programs.

Students may be exempted from the language requirement in one of four ways:

1. Present a score of 4 or 5 on the AP Spanish Language or Spanish Literature Exams. Students who receive a score of 5 in either exam are awarded 3 AP credits upon successful completion of a 3300-level (or above) course with a grade of B or higher. AP credit is not granted for a score of 4.
2. Present a score of 780 or above on the SAT Subject Test. Students with a score lower than 780 should take the department's on-line placement exam and follow the placement advice received.
3. Present a score of a 7, 6, or 5 on the International Baccalaureate Higher Level Exam in Spanish.
4. Obtain a score of 625 or higher on the department's Spanish as a Second Language Placement Exam. If the score on the online exam qualifies a student for exemption from the language requirement, they are required to take a second in-person version of the online placement exam during orientation (for entering students) or during the semester (for continuing students). Please check our Department's website for information about scheduling the second in-person exam for possible exemption..

## DEPARTMENTAL HONORS

Beginning in Spring 2015, the department put in place a new timeline and training program for juniors, to assist students with planning and completing the Honors Thesis during their senior year. The Honors Thesis is an excellent option for any student interested in pursuing a Master's degree or Ph.D.; but, above all, it is a highly formative research and writing experience—one that can bear unexpected fruits toward any path the student decides to take in the future.

All students pursuing a major through the department may apply to write an Honors Thesis. The department envisions the thesis as an intellectually challenging and rewarding experience that crowns four years of undergraduate studies with an original contribution in the field chosen by the student.

The department supports students in shaping their research topic and provides frequent advising throughout the research and writing process. The timeline is as follows:

- During the junior year, students take into consideration the possibility of writing an Honors Thesis in the following year. The topic of the Honors Thesis may likely originate in an advanced course taken during the junior year; students may also choose to develop ideas

discussed or papers written in courses taken in previous years. Juniors schedule a meeting (or, if the student is studying abroad, a Skype conversation) with the director of undergraduate studies to discuss their proposed topic and faculty adviser.

- By May 15, juniors who have decided to write an Honors Thesis in their senior year send a formal proposal to the director of undergraduate studies, which includes:
  - A title and a one-page abstract;
  - The name of the proposed faculty adviser;
  - An application for departmental partial funding support (for those who would like to pursue research during the summer).
- By May 30, the Honors Thesis committee reviews the proposals and informs the students of its decision.
- In the fall of the senior year:
  - Seniors selected to write the Honors Thesis enroll in a Supervised Individual Research section (SPAN UN3997 or SPAN UN3998) with their faculty adviser and write the Honors Thesis during the entire senior year under the direction of their adviser. For the purposes of the major, this independent study counts as a 3-point course towards elective courses.
  - Faculty advisers organize Honors Thesis Workshops to discuss students' ongoing projects and provide advising on research tools, methodological and theoretical frames, and overall writing process.
- In the fall of the senior year, students enroll in a Senior Seminar.
- By April 15 of the senior year, students complete and submit a PDF of the Honors Thesis via email for consideration towards departmental honors and prizes.

To be considered for departmental honors, a student must write an Honors Thesis and maintain a GPA of at least 3.6 in major courses. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

## UNDERGRADUATE PRIZES

The faculty awards an undergraduate prize every year:

### Dr. Antonio G. Mier Prize

Awarded for excellence in Hispanic Studies to a major degree candidate in the School of General Studies at Columbia University.

## PROFESSORS

Carlos J. Alonso  
 Bruno Bosteels  
 Patricia E. Grieve  
 Alberto Medina  
 Graciela R. Montaldo  
 Alessandra Russo



## ASSOCIATE PROFESSORS

Seth Kimmel  
Ana Paulina Lee

## ASSISTANT PROFESSORS

Jerónimo Duarte-Riascos  
Ana M. Fernández-Cebrián

## SENIOR LECTURERS

Lee B. Abraham  
Guadalupe Ruiz-Fajardo  
José Antonio Castellanos-Pazos  
Angelina Craig-Flórez  
Reyes Llopis-García  
Ana Paula Huback  
João Nemi Neto  
Francisco Rosales-Varo  
José Plácido Ruiz-Campillo

## LECTURERS

Francisca Aguiló Mora  
Leyre Alejandre Biel  
Irene Alonso-Aparicio  
Dolores Barbazán Capeáns  
Lorena García Barroso  
Juan Pablo Jiménez-Caicedo  
Diana P. Romero  
Elsa Úbeda

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### UNDERGRADUATE PROGRAMS OF STUDY

#### Major in Hispanic Studies

Students who declared this program before March 2016 (when requirements changed) should contact the Director of Undergraduate Studies to confirm their correct course of study.

Students may only register once in each of the Core Courses (SPAN UN3300, SPAN UN3349 and SPAN UN3350).

The major in Hispanic studies requires 11 courses (minimum of 33 points) as follows:

##### Core Courses

SPAN UN3300	ADV LANGUAGE THROUGH CONTENT
SPAN UN3349	HISPANIC CULTURES I (SP)
SPAN UN3350	HISPANIC CULTURES II (SP)

##### Elective Courses

Select seven elective courses (21 points): a minimum of three 3000- or 4000-level electives must be chosen within the department and up to three electives related to Hispanic Studies may be taken outside the department.

##### Senior Seminar

SPAN UN3991	SENIOR SEMINAR
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### Major in Hispanic Studies with Specialization

Students who declared this program before March 2016 (when requirements changed) should contact the Director of Undergraduate Studies to confirm their correct course of study.

Students may only register once in each of the Core Courses (SPAN UN3300, SPAN UN3349 and SPAN UN3350).

The major in Hispanic studies with specialization requires 14 courses (minimum of 42 points) as follows. Students should consult the director of undergraduate studies to plan their program and refer to the Hispanic Studies Major Worksheet.

##### Core Courses

SPAN UN3300	ADV LANGUAGE THROUGH CONTENT
SPAN UN3349	HISPANIC CULTURES I (SP)
SPAN UN3350	HISPANIC CULTURES II (SP)

##### Elective Courses

Select ten elective courses (30 points): four of which must be chosen within the department and six of which must be in the field of specialization. Approved courses taken abroad may be counted as inside or outside the department for the specialization. A maximum of four courses taken abroad may be counted toward the major.

##### Senior Seminar \*

SPAN UN3991	SENIOR SEMINAR
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\* In exceptional cases and with the director of undergraduate studies' approval, students may take a senior seminar in their area of specialization as a seventh course outside the department, if they have completed enough foundational courses to manage the demands of an advanced seminar. In such cases, the director of undergraduate studies must receive a letter or e-mail from the seminar instructor indicating approval of a student's membership in the course; the seminar project must be on a Hispanic topic; and a copy of the project must be turned in to the director of undergraduate studies for the student's file upon completion of the course. Students who complete the senior seminar in another department may also count it as the third elective course on a Hispanic topic outside the department, in which case they may take a fourth 3000- or 4000-level course in the department.



## Minor in Hispanic Studies

### Prerequisite

Students must either have progressed through the introductory level and first semester of the intermediate language sequence, or display the proficiency equivalent (to be demonstrated by a

placement exam).

### 5 Total Courses:

#### Two Language Courses

-SPAN UN2102 - Intermediate Spanish

-SPAN UN3300 - Advanced Language through Content

#### Three 3000+ Courses

-Hispanic Cultures I (SPAN UN3349) or Hispanic Cultures II (SPAN UN3350)

-Two elective courses in LAIC at 3000+ level or higher (SPAN, PORT, CAT). The extensive

offering of classes varies from year to year.

### Students with higher level of language proficiency have three options :

#1- Language classes in LAIC may be used as an elective

Students who test out of SPAN UN2102 may take the equivalent of two semesters of another language course at the introductory level OR one semester of an intermediate language course in another language taught in the Latin American or Iberian Department (ex: Catalan, Portuguese)

The goal is to achieve reading proficiency.

#2- Study Abroad / Course outside LAIC:

Students who test out of SPAN UN2102 and have not chosen #1(Catalan or Portuguese language classes) can count one course related to Latin American and Iberian Cultures content outside of LAIC at the 3000+ level, subject to approval by the Director of Undergraduate Studies.

#3- Substitute UN 2102 and/or UN3300 for a LAIC elective

Students who test out SPAN UN2102 and have not chosen options #1 or #2 can substitute it with an elective course in LAIC at the 3000+ level or higher, subject to approval by the Director of Undergraduate Studies. In addition, a student who has earned a 5 in Advanced Placement (AP)

Spanish or is a native speaker who has completed high school in a Spanish-speaking country may substitute UN3300 with an elective course in LAIC at the 3000+

level or higher, subject to approval by the Director of Undergraduate Studies.

## Minor in Portuguese

### Prerequisite

Students must have completed 3 semesters of Portuguese (PORT UN1101, PORT UN1102, and PORT UN2101), or the proficiency equivalent (to be demonstrated by a placement exam). Spanish speakers may fulfill the prerequisite with PORT 1320 Portuguese for Spanish Speakers.

### 5 Total Courses:

One Language Course

-Either PORT UN2102 (Intermediate Portuguese II) or PORT UN2120 (Comprehensive Intermediate Portuguese)

#### Four 3000+ Courses

\*The following courses are offered on a rotating basis each semester so students have the chance to choose from a variety of topics each semester:

-PORT UN3300 - Advanced Language through Content

-PORT UN3101 - Conversations about the Lusophone World

-PORT UN3301 - Advanced Writing and Composition

-PORT UN3330 - Introduction to Portuguese Studies

-PORT UN3350 - Lusophone and Afro-Brazilian Cultures

-PORT UN3601 - Race, Medicine, and Literature in Brazil

-PORT UN4033 - Language and Queer Identities in Brazil?

### Students with higher level of language proficiency have three options :

#1- Language classes in LAIC may be used as an elective

Students who test out of PORT UN2102 may take the equivalent of two semesters of another language course at the introductory level OR one semester of an intermediate language course in another language taught in the Latin American or Iberian Department (ex: Catalan, Spanish) The

goal is to achieve reading proficiency.

#2- Study Abroad / Course outside LAIC:

Students who test out of PORT UN2102 and have not chosen #1 (Catalan or Spanish language classes) can count one Columbia course related to Latin American and Iberian Cultures content outside of LAIC at the 3000+ level OR two study abroad courses, subject to approval by the

Director of Undergraduate Studies (classes should have a clear Portuguese focus). Note the opportunity to count two

study abroad courses for Portuguese (vs. one for Spanish), which rewards students for studying abroad in Portuguese-speaking places

### #3- Substitute PORT UN2102 for a LAIC elective

Students who test out PORT UN2102 and have not chosen options #1 or #2 can substitute it with an elective course in LAIC at the 3000+ level or higher, subject to approval by the Director of Undergraduate Studies.

## Minor in Catalan

The Catalan Minor follows the structure of the LAIC and Portuguese Minors but allows for more interdisciplinary and thematic courses since there is only one Catalan faculty member.

### Prerequisite

Students must have completed one year of Catalan (CAT UN1120 and CAT UN2101), or the proficiency equivalent (to be demonstrated by a placement exam).

### 5 Total Courses:

One Language Course

-CAT UN2102 - Intermediate Catalan II

Four 3000+ Courses

\*The following courses are offered on a rotating basis each semester so students have the chance to choose from a variety of topics each semester. Note below that the conditions for counting Catalan related classes from beyond LAIC (both at Columbia and during study abroad) are more

flexible than for Spanish and Portuguese, since we are cognizant of our reliance on a single Catalan faculty member in LAIC

-CAT UN 3300 - Advanced Catalan through Content

-CAT UN 3500 - Literature in Catalan Cinema

-SPAN3300 - Introduction to Catalan Cultures OR  
SPAN3300 - Exploring Barcelona

### Students with higher level of language proficiency have three options :

#1- Language classes in LAIC may be used as an elective

Students who test out of CAT UN2102 may take the equivalent of two semesters of another language course at the introductory level OR one semester of an intermediate language course in another language taught in the Latin American or Iberian Department (ex: Portuguese, Spanish)

The goal is to achieve reading proficiency.

#2- Study Abroad / Course outside LAIC:

Students who test out of CAT UN2102 and have not chosen #1 (Catalan or Spanish language classes) can count two Columbia course related to Latin American and Iberian Cultures content outside of LAIC at the 3000+ level OR two study abroad courses, subject to approval by the

Director of Undergraduate Studies (classes should have a clear Catalan focus). Note the opportunity to count two non-LAIC (vs. one for Portuguese and Spanish) or two study abroad courses for Catalan (vs. two for Portuguese and one for Spanish), which rewards students for

studying abroad in Catalan-speaking places.

### #3- Substitute CAT UN2102 for a LAIC elective

Students who test out CAT UN2102 and have not chosen options #1 or #2 can substitute it with an elective course in LAIC at the 3000+ level or higher, subject to approval by the Director of Undergraduate Studies.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Hispanic Studies

Students who declared this program before March 2016 (when requirements changed) should contact the Director of Undergraduate Studies to confirm their correct course of study.

Students may only register once in each of the Core Courses (SPAN UN3300, SPAN UN3349 and SPAN UN3350).

The concentration in Hispanic studies requires eight courses (minimum of 24 points) as follows:

#### Core Courses

SPAN UN3300	ADV LANGUAGE THROUGH CONTENT
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SPAN UN3349	HISPANIC CULTURES I (SP)
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SPAN UN3350	HISPANIC CULTURES II (SP)
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#### Elective Courses

Select five elective courses (15 points): a minimum of four 3000- or 4000-level courses must be chosen within the department and up to one elective related to Hispanic Studies may be taken outside the department. A maximum of three courses taken abroad may be counted toward the concentration. Students may only register once for SPAN UN3300.

### Concentration in Portuguese Studies

The concentration in Portuguese studies requires eight courses (minimum 24 points) as follows:

**Core Courses**

PORT UN3101	CONVERS ABOUT LUSOPHONE WORLD
PORT UN3300	ADV LANGUAGE THROUGH CONTENT
PORT UN3330	INTRO TO PORTUGUESE STUDIES
PORT UN3350	LUSOPHONE AFR/AFRO- BRAZ CULTRS

**Elective Courses**

Select four elective courses (12 points): at least two must have a PORT designation and be chosen from the department's 3000-level offerings. Electives taken outside of the department must have the director of undergraduate studies' approval and be related to Portuguese studies. A maximum of two courses taught in English may be counted toward the concentration overall. Refer to the Portuguese Concentration Worksheet.

# LINGUISTICS

## THE LINGUISTICS PROGRAM:

Program website: <https://slavic.columbia.edu/content/linguistics>

**Director of Undergraduate Studies:** Meredith Landman (meredith.landman@columbia.edu)

**Undergraduate Administrator:** John Lacqua (jl808@columbia.edu)

## THE STUDY OF LINGUISTICS

In any discussion of linguistics, in popular or academic contexts, the first question is always, what is linguistics, after all? This is remarkable. Language informs most of our mental and cultural activity, and linguistics is just the study of language.

The significance of linguistics in the context of the liberal arts education is twofold. On the one hand, linguistics is a highly developed field of knowledge whose achievements, challenges, and problems constitute an integral part of the modern world of ideas. On the other, understanding the inner properties of language as a complex mechanism and awareness of the extensive tools of its description developed by linguistics provides a crucial background for a variety of disciplines whose subject involves language, such as analytical philosophy, anthropology, folklore, sociology, psychology, computer science, archeology, classic philology, and literary theory.

Our programs of study are designed to acquaint students with the theoretical ideas, conceptual apparatus, and research techniques involved in the study of language in all its variety and uses.

## STUDENT ADVISING

### Consulting Advisers

Students with questions regarding the Linguistics Program should contact the Linguistics DUS, Meredith Landman (meredith.landman@columbia.edu).

Prospective majors or minors should contact the Linguistics DUS as early as possible for advice on progressing through our programs of study.

Students are encouraged to join the Linguistics undergraduate listserv, on which we advertise open houses, colloquia, and other events hosted by our program, as well as internship, summer school, and job opportunities. To join our listserv, please email Meredith Landman (meredith.landman@columbia.edu).

### Enrolling in Classes

Students who are waitlisted for a course should email the course instructor.

### Preparing for Graduate Study

Columbia's linguists have distinguished themselves with awards and plans after graduation, such as Fulbright Fellowships in Germany, Georgia, and Taiwan, graduate study at the University of Hawaii at Manoa, University of Michigan at Ann Arbor, and CUNY Graduate Center. Linguistics is also a natural background for studying law, and our students have entered such law schools as Harvard, UCLA, and NYU.

Students interested in pursuing a graduate program in linguistics should consult the Linguistics DUS for advice.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Transfer Courses

Students may be awarded at most three transfer or study abroad courses toward the major and at most one toward the minor, on a case-by-case basis, with approval from the Linguistics DUS. A syllabus for the courses in question will be required for approval.

### Study Abroad Courses

Undergraduates have engaged in unique travel and research projects, including sign language in Nicaragua; language attitudes in Kyrgyzstan; colloquial Arabic in Cairo; summer internship at the Max Planck Institute for Evolutionary Biology; and study abroad in Spain, England, India, Hungary, and Ireland.

Students may be awarded at most three transfer or study abroad courses toward the major and at most one toward

the minor, on a case-by-case basis, with approval from the Linguistics DUS. A syllabus for the courses in question will be required for approval.

## CORE CURRICULUM CONNECTIONS

The Linguistics Program offers the Global Core course *LING 3102: Endangered Languages in the Global City* each fall.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Senior Thesis Coursework and Requirements

A senior thesis is required for the linguistics major. Linguistics majors must complete two semesters of the senior thesis seminar in the fall and spring of their senior year.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Department honors are awarded to at most 10 percent of the graduating cohort. Students must be in good standing (a GPA of at least 3.6) to be considered for department honors.

## AFFILIATED FACULTY

May Ahmar (Arabic; MESAAS)  
 Akeel Bilgrami (Philosophy)  
 Guadalupe Ruiz Fajardo (Latin American and Iberian Cultures)  
 Aaron Fox (Music)  
 Melissa Fusco (Philosophy)  
 Haim Gaifman (Philosophy)  
 Boris Gasparov (Slavic Languages)  
 E. Mara Green, (Anthropology, Barnard)  
 Julia Hirschberg (Computer Science)  
 Ana Paula Huback (Latin American and Iberian Studies)  
 Meredith Landman (Slavic Languages)  
 Karen Lewis (Philosophy, Barnard)  
 Lening Liu (Chinese; East Asian Languages and Cultures)  
 Reyes Llopis-Garcia (Latin American and Iberian Cultures)  
 David Lurie (Japanese; East Asian Languages and Cultures)  
 Kathleen McKeown (Computer Science)  
 John McWhorter (American Studies)  
 Yuan-Yuan Meng (Chinese; East Asian Languages and Cultures)  
 Michele Miozzo (Psychology)  
 Fumiko Nazikian (Japanese; East Asian Languages and Cultures)  
 Youssef Nouhi (Arabic; MESAAS)  
 Christopher Peacocke (Philosophy)  
 John Phan (East Asian Languages and Cultures)  
 Robert Remez (Psychology, Barnard)

Francisco Rosales-Varo (Latin American and Iberian Studies)  
 Carol Rounds (Hungarian; Italian)  
 José Plácido Ruiz-Campillo (Latin American and Iberian Studies)  
 Richard Sacks (English and Comparative Literature)  
 Ann Senghas (Psychology, Barnard)  
 Mariame Sy (Wolof; Pulaar; MESAAS)  
 Herbert Terrace (Psychology)  
 Alan Timberlake (Slavic Languages)  
 Zhirong Wang (Chinese; East Asian Languages and Cultures)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Students with questions regarding the Linguistics Program should contact the Linguistics DUS, Meredith Landman ([meredith.landman@columbia.edu](mailto:meredith.landman@columbia.edu)).

Prospective majors or minors should contact the Linguistics DUS as early as possible for advice on progressing through our programs of study.

Students are encouraged to join the Linguistics undergraduate listserv, on which we advertise open houses, colloquia, and other events hosted by our program, as well as internship, summer school, and job opportunities. To join our listserv, please email Meredith Landman ([meredith.landman@columbia.edu](mailto:meredith.landman@columbia.edu)).

### Guidance for First-Year Students

First-year students should enroll in *LING 3101: Introduction to Linguistics* in the fall of their first year and contact the Linguistics DUS for further advice on progressing through our programs of study.

### Guidance for Transfer Students

Transfer students should contact the Linguistics DUS as early as possible for advice on progressing through our programs of study.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in Linguistics

Linguistics, especially since the 1960s, has become a highly multifarious and interdisciplinary field of inquiry. This requires that a major acquaint students with a number of subfields, all of which are crucial to understanding what modern linguistic analysis is about (and foster interdisciplinary inquiry as well). To wit, the person with a basic foundation in what constitutes linguistic study in



our times, including training for graduate study if desired, understands:

- a) the basics of grammatical analysis in terms of sounds and sentence structure
- b) how languages change over time
- c) the mechanics of how languages express meaning and implication
- d) the details and nuances of how language is used in social space
- e) the ways and extent to which the world's 7000 languages differ from one another
- f) the relationship between language and cognition writ large

To this end, the major requirements – totaling 38 points – are as follows:

1. LING UN3101 INTRODUCTION TO LINGUISTICS (3pts.)
2. LING GU4376 PHONETICS # PHONOLOGY (3pts.)
3. LING GU4903 SYNTAX (3pts.)
4. One course from four out of five themes (12 pts. total):

- a) Language in time  
Content: Historical linguistics, as in how grammars transform over time (such as the development of Modern from Old English) in terms of sounds, structures, and meaning

LING GU4108 LANGUAGE HISTORY  
ENGL GU4901 HISTORY OF THE ENGLISH LANGUAGE  
CHNS GU4019 HISTORY OF CHINESE LANGUAGE

- b) Language in context  
Content: How language varies in structure and usage according to sociological factors such as gender, class, race, power and culture

LING GU4800 LANGUAGE # SOCIETY  
LING UN3102 Endangered Languages in the Global City: Lang, Culture, and Migration in Contemporary NYC  
ANTH UN1009 INTRO TO LANGUAGE # CULTURE  
ANTH GR6067 Language and Its Limits (graduate seminar open to undergraduates)  
AMST UN3931 Topics in American Studies (Languages of America)  
AMST UN3931 Topics in American Studies (Language Contact)  
SPAN GU4010 LANGUAGE CROSSING IN LATINX CARIBBEAN CULTURAL PRODUCTION  
SPAN BC3382 SOCIOLING ASPECTS U.S.SPANISH (taught in Spanish)

PORT GU4033 Language # Queer Brazil (ENG)

- c) Language diversity  
Content: How languages differ from one another and in which ways; especially valuable in this module are a) Field Methods, eliciting the vocabulary and structure of a lesser documented language by questioning a native speaker, in the fashion of professional linguists, b) courses focusing on the structure of individual languages

LING GU4120 LANG DOCUMENTATION/FIELD MTHDS

LING GU4171 LANGUAGES OF AFRICA  
HNGR UN3343 Descriptive Grammar Hungarian

- d) Language and meaning  
Content: semantics, philosophy of language, cognitive linguistics, natural language processing

LING GU4190 DISCOURSE ANALYSIS  
PHIL UN2685 INTRO TO PHIL OF LANGUAGE  
SPAN GU4011 CONVERSATION IN SPANISH:PRACTICE AND ANA  
SPAN GR5450 A COGNITIVE LINGUISTICS ACCOUNT OF LANGUAGE  
SPAN GU4030 Spanish Pragmatics (taught in Spanish

- e) Psychology and biology of language  
Content: psycholinguistics, neurolinguistics, language genesis. This is especially important given the burgeoning research on the actual structural representation of language in the brain, as well as increasingly influential proposals that ground language in larger thought processes (as opposed to the Chomskyan proposal that language is, to a considerable extent, generated via exclusive cognitive mechanisms).

LING UN3103 Language, Brain and Mind  
PSYC BC3164 PERCEPTION AND LANGUAGE  
PSYC GU4232 Production and Perception of Language  
PSYC BC3369 Language Development  
PSYC GU4242 Evolution of Language (seminar) (graduate seminar open to undergraduates)  
PSYC GU4244 LANGUAGE AND MIND  
PSYC GU4272 Advanced Seminar in Language Development  
PSYC GU4470 PSYCH # NEUROPSYCH OF LANGUAGE

5. One elective course (3 pts.) from a) one of the themes above or b) a linguistics-related course from another department subject to approval from the program. This allows students to either sample more widely or specialize somewhat in a subarea of linguistics that has come to interest them. Pre-approved (non-theme) elective courses for the major are as follows:

Anthropology

ANTH UN3947: Text, Magic, Performance



## Cognitive Science

COGSCI UN1001: Introduction to Cognitive Science

## Computer Science

COMS W1002: Computing in Context: Computing in Linguistics

COMS W4705: Natural Language Processing

COMS W4995: Topics in Computer Science (with approval)

COMS E6998: Topics in Computer Science (with approval)

## East Asian Languages and Cultures

CPLS GU4111: World Philology

EAAS GU4412: History of Writing in a Cosmopolitan East Asia

## Philosophy

PHIL UN3411: Symbolic Logic

6. Senior thesis (two semesters, 3 pts. per semester)

7. Language requirement: Two semesters of an intermediate-level language sequence (8 points). The language must differ from that used to fulfill the core foreign language requirement. The language taken can be ancient (e.g., Latin, Sanskrit, or Ancient Greek) or modern but should neither be the student's native or semi-native language nor belong to one of the major groups of modern European languages (i.e., neither Romance nor Germanic—thus, not French, Spanish, Italian, Portuguese, Catalan, German, or Dutch). Students must actually take the courses in question; testing out of the linguistics language requirement is not allowed.

## Minor in Linguistics

The linguistics minor is designed to acquaint students with a scientific approach to language in all of its variety and uses. The minor draws students from diverse disciplines and career paths who share a common interest in language. Linguistic training can be particularly valuable for students majoring in language-related fields such as those in the cognitive sciences (computer science, philosophy, anthropology, psychology, neuroscience, music), language studies, and human rights. A background in linguistics can also be an asset for students pursuing careers in law, language technologies, education, publishing, or speech and hearing sciences. Many of our students are drawn to the field because they are speakers—or advocates for speakers—of smaller or endangered languages, and they want to learn how to document and describe such languages or help develop and advance technologies for them.

Our program offers students the flexibility to tailor the minor to their specific needs and interests. Students may choose courses that will enhance their primary area of study, or

they may explore linguistics as a secondary field of study independent of their major.

The minor in linguistics consists of five courses (16 points):

1) Three courses in linguistics (i.e., offered in the Linguistics Program). The choice of courses will depend on the student's interests. We strongly recommend—but do not require—that students begin the minor with *Ling UN3101: Introduction to Linguistics*.

Our current course offerings are as follows, organized by subarea:

a) Language structure: The basics of linguistic analysis

LING UN3101: Introduction to Linguistics

LING GU4376: Phonetics & Phonology

LING GU4903: Syntax

LING GU4XXX: Semantics & Pragmatics (new course to be offered in Spring 2025)

b) Language and society: How language is used in social space

AMST UN3990: Topics in American Studies: Language Contact OR Languages of America

LING UN3102: Endangered Languages in NYC

LING GU4800: Language & Society

c) Language and cognition: the role of language in cognition

LING UN3103: Language, Brain & Mind

d) Language diversity: the ways and extent to which the world's 7000 languages vary

HNGR UN3343: Hungarian Descriptive Grammar

LING GU4120: Language Documentation & Field Methods

LING GU4171: Languages of Africa

LING GU4174: Languages of Asia

LING GU4022: Word & Grammar

e) Language change: how languages change over time

ENGL GU4901: History of the English Language

LING GU4108: Language History

2) One elective course, either a) in linguistics from the list above or b) in a related field, chosen with approval from the Director of Undergraduate Studies. Pre-approved elective courses for the minor are as follows:

Anthropology

ANTH UN1009: Introduction to Language and Culture

ANTH UN3947: Text, Magic, Performance

ANTH GR6067: Language and Its Limits (graduate seminar open to undergraduates)

Cognitive Science

COGSCI UN1001: Introduction to Cognitive Science

Computer Science

COMS W1002: Computing in Context: Computing in Linguistics

COMS W4705: Natural Language Processing

COMS W4995: Topics in Computer Science (with approval)

COMS E6998: Topics in Computer Science (with approval)

East Asian Languages and Cultures

CHNS GU4019: History of Chinese Language

CPLS GU4111: World Philology

EAAS GU4412: History of Writing in a Cosmopolitan East Asia

Latin American and Iberian Cultures

SPAN BC3382: Sociolinguistic Aspects of US Spanish

SPAN GU4010: Language Crossing in Latinx Caribbean Cultural Production

SPAN GU4030: Spanish Pragmatics (taught in Spanish)

SPAN GF5450: Mind and Body in Space: A Cognitive Linguistics Account of Language

Philosophy

PHIL UN2685: Introduction to the Philosophy of Language

PHIL UN3685: Philosophy of Language

PHIL UN3411: Symbolic Logic

PHIL GR9525: Topics in the Philosophy of Language (graduate seminar open to undergraduates)

Psychology

PSYC BC3164: Perception & Language

PSYC BC3369: Language Development

PSYC UN3450: Evolution of Intelligence, Animal Communication & Language

PSYC GU4232: Production & Perception of Language

PSYC GU4244: Language & Mind

PSYC GU4272: Advanced Seminar in Language Development

PSYC GU4470: Psychology and Neuropsychology of Language

3) One language course at the intermediate level (i.e., equivalent to the third semester or beyond) (4 points). *The language may be the same as that used to fulfill the core foreign language requirement.* The language taken can be ancient (e.g., Latin, Sanskrit, or Ancient Greek) or modern but should neither be the student's native or semi-native language nor belong to one of the major groups of modern European languages (i.e., neither Romance nor Germanic—thus, not French, Spanish, Italian, Portuguese, Catalan, German, or Dutch). Students must actually take the course in question; testing out of the linguistics language requirement is not allowed.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE FALL 2023

### Special Concentration in Linguistics

The special concentration in linguistics is not sufficient for graduation in and of itself. It must be taken in conjunction with a major or a full concentration in another discipline.

Please note: the requirements for the special concentration in Linguistics were modified in the Fall 2019 semester. Students who entered Columbia before the Fall 2019 semester have the option of following the new or the old requirements. If you have any questions, please contact the Director of Undergraduate Studies.

For the new requirements, students must take 23 points in the linguistics program as specified below.

For the old requirements, students must take 18 points; the requirements are specified below, with the exception that the language requirement is one language course at the intermediate level (4pts.), separate from the core curriculum foreign language requirement.

The requirements for the special concentration (23 points) are as follows:

1. Three core courses in linguistics chosen from:

LING UN3101 INTRODUCTION TO LINGUISTICS  
LING UN3102 Endangered Languages in the Global City: Lang, Culture, and Migration in Contemporary NYC  
LING UN3103 Language, Brain and Mind  
HNDR UN3343 Descriptive Grammar Hungarian  
LING GU4108 LANGUAGE HISTORY  
LING GU4120 LANG DOCUMENTATION/FIELD MTHDS  
LING GU4171 LANGUAGES OF AFRICA  
LING GU4190 DISCOURSE ANALYSIS

LING GU4376 PHONETICS # PHONOLOGY  
 LING GU4800 LANGUAGE # SOCIETY  
 LING GU4903 SYNTAX

2. Two additional courses from either a) the core linguistics courses, or b) a linguistics-related course from another department subject to approval from the program. Courses previously approved include those listed below:

Anthropology:

ANTH UN1009 INTRO TO LANGUAGE # CULTURE  
 ANTH GU4042 Agent, Person, Subject, Self  
 ANTH GR6067 Language and Its Limits  
 ANTH GR6125 Language, Culture, and Power

Chinese:

CHNS GU4019 HISTORY OF CHINESE LANGUAGE

Computer Science:

COMS W1012 Computational Linguistics  
 COMS W4705 Natural Language Processing  
 COMS W4995 Topics in Computer Science (with approval)  
 COMS E6998 Topics in Computer Science (with approval)

Comparative Literature & Society:

CPLS GU4111 World Philology

French:

FREN BC3011 History of the French Language

Philosophy:

PHIL UN2685 INTRO TO PHIL OF LANGUAGE  
 PHIL UN3411 SYMBOLIC LOGIC  
 PHIL UN3685 PHILOSOPHY OF LANGUAGE  
 PHIL GU4490 LANGUAGE AND MIND

Psychology:

PSYC UN2215 Cognition and the Brain

PSYC UN2440: Language and the Brain

PSYC UN2450 BEHAVIORAL NEUROSCIENCE

PSYC BC3164 PERCEPTION AND LANGUAGE

PSYC UN3265 Auditory Perception (Seminar)

PSYC BC3369 LANGUAGE DEVELOPMENT

PSYC GU4232 Production and Perception of Language

PSYC GU4272 Advanced Seminar in Language Development

Spanish:

SPAN BC3382 SOCIOLING ASPECTS U.S.SPANISH

SPAN GU4010 LANGUAGE CROSSING IN LATINX CARIBBEAN CULTURAL PRODUCTION

SPAN GU4011 CONVERSATION IN

SPANISH:PRACTICE AND ANA

SPAN GU4030 Spanish Pragmatics

SPAN GR5450 A COGNITIVE LINGUISTICS ACCOUNT OF LANGUAGE

Sociology:

SOCI GU4030 Sociology of Language

3. Language requirement: Two semesters of an intermediate-level language sequence (8 points). The language taken can be an ancient language (e.g., Latin, Ancient Greek, Sanskrit) or a modern one but should neither belong to one of the major groups of modern European languages (Germanic, Romance) nor be the student's native or semi-native language. In addition, the language cannot also be used to satisfy the core language requirement.

# MATHEMATICS

## THE DEPARTMENT OF MATHEMATICS

**Department website:** <http://www.math.columbia.edu>

**Director of Undergraduate Studies**

Julien Dubedat, 601 Mathematics; 212-854-8806; [jd2653@columbia.edu](mailto:jd2653@columbia.edu)

**Undergraduate Academic Coordinator**

TBD

## THE STUDY OF MATHEMATICS

The major in mathematics is an introduction to some of the highlights of the development of theoretical mathematics over the past four hundred years from a modern perspective. This study is also applied to many problems, both internal to mathematics and arising in other disciplines such as physics, cryptography, and finance.

Majors begin by taking either Honors mathematics or the calculus sequence. Students who do not take MATH UN1207 HONORS MATHEMATICS A and MATH UN1208 HONORS MATHEMATICS B normally take MATH UN2010 LINEAR ALGEBRA in the second year. Following this, majors begin to learn some aspects of the main branches of modern mathematics: algebra, analysis, and geometry; as well as some of their subdivisions and hybrids (e.g., number theory,

differential geometry, and complex analysis). As the courses become more advanced, they also become more theoretical and proof-oriented and less computational.

Aside from the courses offered by the Mathematics Department, cognate courses in areas such as astronomy, chemistry, physics, probability, logic, economics, and computer science can be used toward the major. A cognate course must be a 2000-level (or higher) course and must be approved by the director of undergraduate studies. In general, a course not taught by the Mathematics Department is a cognate course for the mathematics major if either (a) it has at least two semesters of calculus as a stated prerequisite, or (b) the subject matter in the course is mathematics beyond an elementary level, such as PHIL UN3411 SYMBOLIC LOGIC, in the Philosophy Department, or COMS W3203 DISCRETE MATHEMATICS, in the Computer Science Department. A list of pre-approved cognate courses can be found under the [major requirements](#).

Another requirement for majors is participation in an undergraduate seminar, usually in the junior or senior year. Applied math majors must take the undergraduate applied math seminar sequence in both the junior and senior year. In these seminars, students gain experience in learning an advanced topic and lecturing on it. In order to be eligible for departmental honors, majors must write a senior thesis.

## Student Advising

### Director of Undergraduate Studies

Prof. Julien Dubedat, 601 Mathematics; 212-854-8806; [jd2653@columbia.edu](mailto:jd2653@columbia.edu)

### Calculus Director

Prof. George Dragomir, 525 Mathematics; 212-854-2849; [gd2572@columbia.edu](mailto:gd2572@columbia.edu)

### Computer Science-Mathematics Advisers

*Computer Science:* Dr. Jae Woo Lee, 715 CEPSR; 212-939-7066; [jae@cs.columbia.edu](mailto:jae@cs.columbia.edu)

*Mathematics:* Prof. Chiu-Chu Melissa Liu, 623 Mathematics; 212-854-2499; [ccliu@math.columbia.edu](mailto:ccliu@math.columbia.edu)

### Economics-Mathematics Advisers

*Economics:* Dr. Susan Elmes, 1006 International Affairs Building; 212-854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)

*Mathematics:* Prof. Francesco Lin, 613 Mathematics; 212-854-2192; [f\(jd2653@columbia.edu\)l2550@columbia.edu](mailto:f(jd2653@columbia.edu)l2550@columbia.edu)  
([fl2550@columbia.edu](mailto:fl2550@columbia.edu))

### Mathematics-Statistics Advisers

*Mathematics:* Prof. Andrew Blumberg, 607 Mathematics; 212-851-9307; [a\(jd2653@columbia.edu\)b4808@columbia.edu](mailto:a(jd2653@columbia.edu)b4808@columbia.edu) ([ab4808@columbia.edu](mailto:ab4808@columbia.edu))

*Statistics:* Dr. Ronald Neath, 612 Watson; 212-853-1398; [rcn2112@columbia.edu](mailto:rcn2112@columbia.edu)

## Enrolling in Classes

Most undergraduate level courses in Mathematics can be taken once the prerequisite courses have been completed. Any exceptions to waive a prerequisite requirement must be obtained by writing to the Director of Undergraduate Studies.

Students who wish to register for a section of either Supervised Readings and/or Senior Thesis must first identify a faculty sponsor, determine a suitable topic, and obtain written permission from the Director of Undergraduate Studies. Refer to the Undergraduate Research and Senior Thesis section, below.

## Preparing for Graduate Study

Departmental advisors can offer advice about and help with graduate school applications. The Mathematics department also runs a [Master's degree program in mathematical finance](#) and a [Ph.D. program in mathematics](#).

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Comprehensive information on college level coursework taken outside Columbia University are described on the College's [Academic Regulation website](#) or the General Studies [Transfer Credit website](#).

## Advanced Placement

AP or IB calculus may count towards degree requirements, subject to completion of a higher level course:

- The department grants 3 credits for a score of 4 or 5 on the AP Calculus AB exam provided students complete MATH UN1102 CALCULUS II or MATH UN1201 CALCULUS III with a grade of C or better.

- The department grants 3 credits for a score of 4 on the AP Calculus BC exam provided students complete MATH UN1102 CALCULUS II or MATH UN1201 CALCULUS III with a grade of C or better.
- The department grants 6 credits for a score of 5 on the AP Calculus BC exam provided students complete MATH UN1201 CALCULUS III or MATH UN1205 ACCELERATED MULTIVARIABLE CALC or MATH UN1207 HONORS MATHEMATICS A with a grade of C or better.

Students can receive credit for only one calculus sequence. Other college level courses taken during high school may substitute for course prerequisites pending the approval of the Director of Undergraduate Studies, but will not confer credits.

## Barnard College Courses

Any course offered by the Mathematics@Barnard department will count towards degree requirements.

## Transfer Courses

Courses taken at other colleges or universities may be evaluated for transfer credit. A maximum of 16 transfer credits may be granted. A maximum of 6 transfer credits may be counted towards minor requirements.

- Course equivalency requests for any Calculus level course, Linear Algebra, or Ordinary Differential Equations must be submitted to the Calculus Director for evaluation.
- Course equivalency requests for any other mathematics course must be submitted to the Director of Undergraduate Studies for evaluation.

## Study Abroad Courses

Although study abroad is not an integral part of your studies in mathematics, it can provide you with exposure to a different culture and a different educational system, and, as such, can be very fulfilling. You may also want to participate in the Budapest Mathematical Seminar or similar programs in your junior year. Keep in mind, however, that study abroad requires careful planning. If you are seriously considering studying abroad, you should consult with the Director of Undergraduate Studies as early in your program as possible in order to plan your major accordingly and to incorporate study abroad courses that are compatible with your major in mathematics.

## Summer Courses

Any mathematics or approved cognate course offered during the summer session will count towards the degree, with the exception of online only courses, which *do not* count towards degree requirements.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

*MATH UN3901 Supervised Readings I* (fall term only)

*MATH UN3902 Supervised Readings II* (spring term only)

Prerequisites: The written permission of the faculty member who agrees to act as sponsor (sponsorship limited to full-time instructors on the staff list), as well as the permission of the Director of Undergraduate Studies. The written permission must be deposited with the Director of Undergraduate Studies before registration is completed.

Guided reading and study in mathematics. A student who wishes to undertake individual study under this program must present a specific project to a member of the staff and secure his or her willingness to act as sponsor. Written reports and periodic conferences with the instructor. Supervising Readings do NOT count towards major requirements, with the exception of an advanced written approval by the Director of Undergraduate Studies.

### Senior Thesis Coursework and Requirements

A Senior Thesis in Mathematics is an original presentation of a subject in pure or applied mathematics from sources in the published literature. The thesis must demonstrate significant independent work of the author. A thesis is expected to be between 20 and 50 pages with complete references and must have a substantial expository component to be well received.

A student who is interested in writing a senior thesis needs to identify a faculty member in the Department of Mathematics as an advisor, determine an appropriate topic, and receive the written approval from the faculty advisor and the Director of



Undergraduate Studies. The research of the thesis is conducted primarily during the fall term and the final paper is submitted to the Director of Undergraduate Studies by the end of March.

Students must register for *MATH UN3994 SENIOR THESIS IN MATHEMATICS I* (4 credits) in the fall semester of their senior year. An optional continuation course *MATH UN3995 SENIOR THESIS IN MATHEMATICS II* (2 credits) is available during the spring. The second term of this sequence may not be taken without the first. Registration for the spring continuation course has no impact on the timeline or outcome of the final paper. Sections of Senior Thesis in Mathematics I and II do NOT count towards the major requirements, unless prior written approval is obtained from the Director of Undergraduate Studies.

## Undergraduate Research Outside of Courses

The department runs several undergraduate research programs aimed at math majors. Opportunities are available during the academic year and summer terms.

The Undergraduate Mathematics Society is the department's undergraduate club. Detailed information on membership, Society-sponsored seminars and activities, and archival resources are available on the Society's Web site. The department also sponsors workshops and weekly seminars in mathematics, and posts information about special lectures, conferences, and seminars at nearby schools.

In addition, the Association for Women in Mathematics Columbia Chapter connects students and professors interested in mathematics at Columbia University and Barnard College as part of a broader effort to encourage women and girls to study and to have active careers in the mathematical sciences, and to promote equal opportunity for and the equal treatment of women and girls in the STEM fields.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

To be recommended to the College Committee on Honors, Awards, and Prizes, which makes the final decisions on all honors' recipients, you must have a GPA of 3.63 in the major and have completed a senior thesis of merit. For more information on researching and writing the senior thesis and on departmental honors, you should consult with the Director of Undergraduate Studies. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

### Academic Prizes

#### Putnam Exam

The Putnam exam is a nationwide competitive exam administered each year on the first Saturday in December. A faculty member conducts coaching sessions for students who are interested in competing.

#### Columbia Prizes

Several prizes for excellence in mathematics are awarded each year to undergraduates, based on performance on a prize exam scheduled each spring. These include:

- Professor Van Amringe Mathematical Prize
  - This prize, established in 1910 by George G. Dewitt, Class of 1867, may be awarded to a first year, a sophomore, and a junior student in the College who are deemed most proficient in the mathematical subjects designated during the year of the award.
- John Dash Van Buren Jr. Prize in Mathematics
  - Established in 1906 by Mrs. Louis T. Hoyt in memory of her nephew, John Dash Van Buren, Jr., Class of 1905, this prize may be awarded to a Columbia College senior degree candidate who writes the best examination in subjects prescribed by the Mathematics Department.

## OTHER IMPORTANT INFORMATION

Other helpful information may be found on the Department of Mathematics website.

## PROFESSORS

- David A. Bayer (Barnard)
- Andrew Blumberg
- Simon Brendle
- Ivan Corwin
- Panagiota Daskalopoulos
- Aise Johan de Jong (Department Chair)
- Daniela De Silva (Barnard Chair)
- Julien Dubedat
- Robert Friedman
- Dorian Goldfeld
- Brian Greene
- Richard Hamilton
- Michael Harris
- Ioannis Karatzas
- Alisa Knizel (Barnard)
- Chiu-Chu Liu
- Dusa McDuff (Barnard)
- Andrei Okounkov
- D. H. Phong
- Ovidiu Savin
- Michael Thaddeus
- Eric Urban
- Mu-Tao Wang

## ASSOCIATE PROFESSORS

- Amol Aggarwal
- Chao Li
- Francesco Lin
- Lindsay Piechnik (Barnard)

## ASSISTANT PROFESSORS

- Elena Giorgi
- Giulia Sacca
- Mehtaab Sawhney

## J.F. RITT ASSISTANT PROFESSORS

- Rostislav Akhmechet
- Amadou Bah
- Deeparaj Bhat
- Jeanne Boursier
- Marco Castronovo
- Brian Harvie
- Qiao He
- Sven Hirsch
- Andres Ibanez Nunez
- Yoonjoo Kim
- Siddhi Krishna
- Gyujin Oh

- Marco Sangiovanni Vincentelli
- Dawei Shen
- Xi Sisi Shen
- Evan Sorensen
- Roger Van Peski
- Lucy Yang

## SENIOR LECTURERS IN DISCIPLINE

- Mikhail Smirnov
- Peter Woit

## LECTURERS IN DISCIPLINE

- George Dragomir

## ON LEAVE

- Fall 2024: Profs. Aggarwal, Bayer, Giorgi, Li, Sawhney, Shen, Wang
- Spring 2025: Profs. Aggarwal, Bayer, Li, Liu, Sawhney, Urban, Wang

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN MATHEMATICS PROGRAM PLANNING FOR ALL STUDENTS

### Placement in the Calculus Sequences

#### Calculus I

Students who have essentially mastered a precalculus course and those who have a score of 3 or less on an Advanced Placement (AP) exam (either AB or BC) should begin their study of calculus with MATH UN1101 CALCULUS I.

#### Calculus II and III

Students with a score of 4 or 5 on the AB exam, 4 on the BC exam, or those with no AP score but with a grade of A in a full year of high school calculus may begin with either MATH UN1102 CALCULUS II or MATH UN1201 CALCULUS III.

Note that such students who decide to start with Calculus III may still need to take Calculus II since it is a requirement or prerequisite for other courses. In particular, they **MUST** take Calculus II before going on to MATH UN1202 CALCULUS IV. Students with a score of 5 on the BC exam may begin with Calculus III and do not need to take Calculus II.

Those with a score of 4 or 5 on the AB exam or 4 on the BC exam may receive 3 points of AP credit upon completion of Calculus II with a grade of C or higher. Those students with a score of 5 on the BC exam may receive 6 points of AP credit upon completion of Calculus III with a grade of C or higher.

#### Accelerated Multivariable Calculus

Students with a score of 5 on the AP BC exam or 7 on the IB HL exam may begin with MATH UN1205 ACCELERATED MULTIVARIABLE CALC. Upon completion of this course with a grade of C or higher, they may receive 6 points of AP credit.

#### Honors Mathematics A

Students who want a proof-oriented theoretical sequence and have a score of 5 on the BC exam may begin with MATH UN1207 HONORS MATHEMATICS A, which is especially designed for mathematics majors. Upon completion of this course with a grade of C or higher, they may receive 6 points of AP credit.

### Transfer Inside the Calculus Sequences

Students who wish to transfer from one calculus course to another are allowed to do so beyond the date specified on the Academic Calendar. They are considered to be adjusting their level, not changing their program. However, students must obtain the approval of the new instructor and their advising dean prior to reporting to the Office of the Registrar.

Grading

No course with a grade of D or lower can count toward the major, interdepartmental major, minor, or concentration.

Double Counting

Students who are doing a double major should review the College Bulletin's policy on Double Counting Courses towards Requirements. In general, courses in the Calculus sequence may be counted towards both majors, with up to two additional MATH UN2xxx or higher level courses at the discretion of all approving departments. Students pursuing a minor may double count at most one additional MATH UN2xxx or higher level course.

Planning Forms

Planning forms for all programs are available on our website. These forms should be completed and approved by a department adviser early in the semester of the expected graduation date.

COURSE NUMBERING STRUCTURE

- 1000-2000 Level courses are intended to be introductory courses (such as the Calculus sequence and Linear Algebra).
- 3000-4000 Level courses cover more advanced mathematics, as well as supervised readings, undergraduate seminars, and senior theses.
- 5000 Level courses are Master’s level courses.
- 6000 Level and above are PhD level courses.

GUIDANCE FOR FIRST-YEAR STUDENTS

The systematic study of mathematics begins with one of the following three alternative calculus and linear algebra sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA
OR	
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
OR	
MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B

Credit is allowed for only one calculus and linear algebra sequence.

*Calculus I, II* is a standard course in single-variable differential and integral calculus; *Calculus III, IV* is a standard course in multivariable differential and integral calculus; *Accelerated Multivariable Calculus* is an accelerated course in multivariable differential and integral calculus.

While *Calculus II* is no longer a prerequisite for *Calculus III*, students are strongly urged to take it before taking *Calculus III*. In particular, students thinking of majoring or concentrating in mathematics or one of the joint majors involving mathematics should take *Calculus II* before taking *Calculus III*. Note that *Calculus II* is a prerequisite for *Accelerated Multivariable Calculus*, and both *Calculus II* and *Calculus III* are prerequisites for *Calculus IV*.

The third sequence, *Honors Mathematics A/B*, is for exceptionally well-qualified students who have strong Advanced Placement scores. It covers multivariable calculus (MATH UN1201 CALCULUS III - MATH UN1202 CALCULUS IV) and linear algebra (MATH UN2010 LINEAR ALGEBRA), with an emphasis on theory.

GUIDANCE FOR TRANSFER STUDENTS

Consideration for AP, IB and transfer credit is as follows:

Equivalent to *MATH UN1101 Calculus I*:

- A score of 4 on the Calculus BC Advanced Placement exam.
- A score of 4 or 5 on the Calculus AB Advanced Placement exam.
- A score of 6 on the IB Mathematics: analysis and approaches HL exam (2021 or later) or a score of 6 on the IB HL Mathematics or Further Mathematics exams (2020 or earlier).
- A score of 6 or 7 on the IB Mathematics: applications and interpretation HL exam (2021 or later) or a score of 6 or 7 on the IB SL Mathematics exam (2020 or earlier). This does not include the IB “Mathematical Studies SL” exam.
- An A on the A-Level Mathematics exam or a B in A-Level Further Mathematics exam in the U.K.
- A grade of A in a full year of high school calculus.

Equivalent to *MATH 1101 Calculus I* and *MATH 1102 Calculus II*:

- A score of 5 on the Calculus BC Advanced Placement.
- A score of 7 on the IB Mathematics: analysis and approaches HL exam (2021 or later) or a score of 7 on the IB HL Mathematics or Further Mathematics exams (2020 or earlier).
- An A on the A-Level Further Mathematics exam in the U.K.

## UNDERGRADUATE PROGRAMS OF STUDY

### MAJOR IN MATHEMATICS

The major requires 40-42 points as follows:

Select one of the following three calculus and linear algebra sequences (13-15 points including Advanced Placement Credit):

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B

12 points in the following courses:

MATH GU4041	INTRO MODERN ALGEBRA I
MATH GU4042	INTRO MODERN ALGEBRA II
MATH GU4061	INTRO MODERN ANALYSIS I <sup>2</sup>
MATH GU4062	INTRO MODERN ANALYSIS II <sup>2</sup>

3 points in the following:

MATH UN3951	UNDERGRADUATE SEMINARS I <sup>3</sup>
or MATH UN3952	UNDERGRADUATE SEMINARS II

12 points from the following:

1) Courses offered by the department numbered 2000 or higher <sup>3</sup>

2) Courses from the list of approved cognate courses below. A maximum of 6 credits may be taken from courses outside the department. <sup>4</sup>

<sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.



- <sup>2</sup> Students who are not contemplating graduate study in mathematics may replace one or both of the two terms of MATH GU4061- MATH GU4062 by one or two of the following courses: MATH UN2500 ANALYSIS AND OPTIMIZATION, MATH UN3007 COMPLEX VARIABLES, MATH UN3028 PARTIAL DIFFERENTIAL EQUATIONS, or MATH GU4032 FOURIER ANALYSIS.
- <sup>3</sup> Only one Undergraduate Seminar may count towards the major requirements.
- <sup>4</sup> Additional courses may be selected only with prior written approval from the Director of Undergraduate Studies.

The program of study should be planned with a departmental adviser before the end of the sophomore year. Majors who are planning on graduate studies in mathematics are urged to obtain a reading knowledge of one of the following languages: French, German, or Russian.

Majors are offered the opportunity to write an honors senior thesis under the guidance of a faculty member. Interested students should refer to the "Undergraduate Research and Senior Thesis" section on the Overview tab for additional information.

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**Approved Cognate Courses 1**

APMA E2101 INTRO TO APPLIED MATHEMATICS  
 APMA E3102 APPLIED MATHEMATICS II: PDE'S  
 APMA E4300 COMPUT MATH:INTRO-NUMERCL METH  
 APMA E4302 METHODS IN COMPUTATIONAL SCI  
 APPH E6102 PLASMA PHYSICS II  
 CBMF W4761 COMPUTATIONAL GENOMICS  
 CHEM UN3079 PHYSICAL CHEMISTRY I-LECTURES  
 CHEM UN3080 PHYSICAL CHEMISTRY II-LECTURES  
 COMS W3134 Data Structures in Java  
 COMS W3157 ADVANCED PROGRAMMING  
 COMS W3203 DISCRETE MATHEMATICS  
 COMS W3261 COMPUTER SCIENCE THEORY  
 COMS W4111 INTRODUCTION TO DATABASES  
 COMS W4160 COMPUTER GRAPHICS  
 COMS W4162 Advanced Computer Graphics  
 COMS W4203 Graph Theory  
 COMS W4261 INTRO TO CRYPTOGRAPHY  
 COMS W4460 PRIN-INNOVATN/ ENTREPRENEURSHIP  
 COMS W4701 ARTIFICIAL INTELLIGENCE  
 COMS W4705 NATURAL LANGUAGE PROCESSING  
 COMS W4762 Machine Learning for Functional Genomics  
 COMS W4771 MACHINE LEARNING  
  
 COMS W4773 Machine Learning Theory  
 CSEE W3827 FUNDAMENTALS OF COMPUTER SYSTS  
 CSOR W4231 ANALYSIS OF ALGORITHMS I  
 CSOR W4246 ALGORITHMS FOR DATA SCIENCE  
 CSPH G4801  
 CSPH G4802 Math Logic II: Incompleteness

**Approved Cognate Courses 2**

ECON UN3025 FINANCIAL ECONOMICS  
 ECON BC3035 INTERMEDIATE MICROECONOMICS  
 ECON BC3038 INTERNATIONAL MONEY # FINANCE  
 ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3265 MONEY AND BANKING  
 ECON UN3412 INTRODUCTION TO ECONOMETRICS  
 ECON GU4020 ECON OF UNCERTAINTY # INFORMTN  
 ECON GU4230 ECONOMICS OF NEW YORK CITY  
 ECON GU4280 CORPORATE FINANCE  
 ECON GU4415 GAME THEORY  
 ECON GU4710 FINANCE AND THE REAL ECONOMY  
 EEOR E6616 CONVEX OPTIMIZATION  
 EESC UN3400 COMPUTATIONAL EARTH SCIENCE  
 EESC GU4008 Introduction to Atmospheric Science  
 EESC GU4090 INTRO TO GEOCHRONOLGY  
 EESC GU4924 INTRO TO ATMOSPHERIC CHEMISTRY  
 IEOR E3106 STOCHASTIC SYSTEMS AND APPLICATIONS  
 IEOR E3658 PROBABILITY FOR ENGINEERS  
 IEOR E4700 INTRO TO FINANCIAL ENGINEERING  
 IEOR E6613 Optimization, I  
 MSAE E3010 FOUNDATIONS OF MATERIALS SCIENCE  
 MSAE E3111 THERMO/KINETIC THRY/STAT MECH  
 PHIL UN3411 SYMBOLIC LOGIC  
 PHIL GU4424 MODAL LOGIC  
 PHIL GU4431 INTRODUCTION TO SET THEORY  
 PHIL GU4561 PROBABILITY # DECISION THEORY  
 PHIL GU4810 LATTICES AND BOOLEAN ALGEBRA

**Approved Cognate Courses 3**

PHYS UN2601 PHYSICS III:CLASS/ QUANTUM WAVE  
 PHYS UN2801 ACCELERATED PHYSICS I  
 PHYS UN2802 ACCELERATED PHYSICS II  
 PHYS UN3003 MECHANICS  
 PHYS UN3007 ELECTRICITY-MAGNETISM  
 PHYS UN3008 ELECTROMAGNETIC WAVES # OPTICS  
 PHYS GU4011 PARTICLE ASTROPHYS # COSMOLOGY  
 PHYS GU4018 SOLID STATE PHYSICS  
 PHYS GU4019 MATHEMATICAL METHODS OF PHYSICS  
 PHYS GU4021 QUANTUM MECHANICS I  
 PHYS GU4022 QUANTUM MECHANICS II  
 PHYS GU4023 THERMAL # STATISTICAL PHYSICS  
 PHYS GU4040 INTRO TO GENERAL RELATIVITY  
 PHYS GR6047 QUANTUM FIELD THEORY I  
 PHYS GR6080 SCIENTIFIC COMPUTING  
 POLS GU4700 MATH # STATS FOR POLI SCI  
 STAT UN3106 APPLIED MACHINE LEARNING  
 STAT GU4001 INTRODUCTION TO PROBABILITY AND STATISTICS  
 STAT GU4203 PROBABILITY THEORY  
 STAT GU4204 STATISTICAL INFERENCE  
 STAT GU4205 LINEAR REGRESSION MODELS  
 STAT GU4206 STAT COMP # INTRO DATA SCIENCE  
 STAT GU4207 ELEMENTARY STOCHASTIC PROCESS

## MAJOR IN APPLIED MATHEMATICS

The major requires 37-41 points as follows:

Select one of the following three calculus and linear algebra sequences (13-15 points including Advanced Placement Credit):

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B
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Select one of the following three courses. The selected course may not count as an elective.

MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH GU4032	FOURIER ANALYSIS
MATH GU4061	INTRO MODERN ANALYSIS I

Take each of the following two required courses:

APMA E4901	SEM-PROBLEMS IN APPLIED MATH (junior year)
APMA E4903	SEM-PROBLEMS IN APPLIED MATH (senior year)

18 points in electives, with at least 9 points in Track A electives, or at least 9 points in Track B electives. A maximum of 9 points may be selected from courses outside these tracks, with prior written approval from the Director of Undergraduate Studies.

### TRACK A

MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
MATH UN3007 or MATH GU4065 or APMA E4204	COMPLEX VARIABLES HONORS COMPLEX VARIABLES FUNCTNS OF A COMPLEX VARIABLE
MATH UN3028 or APMA E3102 or APMA E4200	PARTIAL DIFFERENTIAL EQUATIONS APPLIED MATHEMATICS II: PDE'S PARTIAL DIFFERENTIAL EQUATIONS
MATH GU4032	FOURIER ANALYSIS
MATH GU4061	INTRO MODERN ANALYSIS I
MATH GU4062	INTRO MODERN ANALYSIS II
APMA E4100	Applied Analysis
APMA E4101	APPL MATH III:DYNAMICAL SYSTMS
APMA E4150	APPLIED FUNCTIONAL ANALYSIS
APMA E4300	COMPUT MATH:INTRO-NUMERCL METH
APMA E4301	NUMERICAL METHODS/PDE'S
APMA E6301	ANALYTIC METHODS FOR PDE'S
APMA E6302	NUMERICAL ANALYSIS OF PDE'S

### TRACK B

COMS W3203	DISCRETE MATHEMATICS
COMS W3261	COMPUTER SCIENCE THEORY
COMS W4231	ANALYSIS OF ALGORITHMS I
COMS W4261	INTRO TO CRYPTOGRAPHY

MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GU4155 or IEOR E3658 or STAT GU4203	PROBABILITY THEORY PROBABILITY FOR ENGINEERS PROBABILITY THEORY
MATH GU4156	ADVANCED PROBABILITY THEORY
IEOR E3106 or STAT GU4207	STOCHASTIC SYSTEMS AND APPLICATIONS ELEMENTARY STOCHASTIC PROCESS
APMA E4008	Advanced and Applied Linear Algebra
APMA E4306	Applied Stochastic Analysis
ECON GU4415	GAME THEORY

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

## MAJOR IN COMPUTER SCIENCE–MATHEMATICS

The goal of this interdepartmental major is to provide substantial background in each of these two disciplines, focusing on some of the parts of each which are closest to the other. Students intending to pursue a Ph.D. program in either discipline are urged to take additional courses, in consultation with their advisers.

The major requires 20 points in computer science, 19-21 points in mathematics, and two 3-point electives in either computer science or mathematics.

### Computer Science

COMS W1004 or COMS W1007	Introduction to Computer Science and Programming in Java
COMS W3134 or COMS W3137	Data Structures in Java HONORS DATA STRUCTURES # ALGOL
COMS W3157	ADVANCED PROGRAMMING
COMS W3203	DISCRETE MATHEMATICS
COMS W3261	COMPUTER SCIENCE THEORY
CSEE W3827	FUNDAMENTALS OF COMPUTER SYSTS

### Mathematics

Select one of the following three calculus and linear algebra sequences (13-15 points including Advanced Placement Credit):

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B
MATH UN3951 or MATH UN3952	UNDERGRADUATE SEMINARS I UNDERGRADUATE SEMINARS II

MATH GU4041	INTRO MODERN ALGEBRA I
<b>Electives</b>	
Select two of the following courses:	
MATH BC2006	COMBINATORICS
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH UN3007	COMPLEX VARIABLES
MATH UN3020	NUMBER THEORY AND CRYPTOGRAPHY
MATH UN3025	MAKING, BREAKING CODES
MATH UN3028	PARTIAL DIFFERENTIAL EQUATIONS
MATH UN3386	DIFFERENTIAL GEOMETRY
MATH GU4032	FOURIER ANALYSIS
MATH GU4042	INTRO MODERN ALGEBRA II
MATH GU4051	TOPOLOGY
MATH GU4053	INTRO TO ALGEBRAIC TOPOLOGY
MATH GU4061	INTRO MODERN ANALYSIS I
MATH GU4062	INTRO MODERN ANALYSIS II
COMS W4111	INTRODUCTION TO DATABASES
COMS W4113	FUND-LARGE-SCALE DIST SYSTEMS
COMS W4115	PROGRAMMING LANG # TRANSLATORS
COMS W4118	OPERATING SYSTEMS I
COMS W4119	COMPUTER NETWORKS
COMS W4152	Engineering Software-as-a-Service
COMS W4156	ADVANCED SOFTWARE ENGINEERING
COMS W4160	COMPUTER GRAPHICS
COMS W4167	COMPUTER ANIMATION
COMS W4170	USER INTERFACE DESIGN
COMS W4181	SECURITY I
CSOR E4231	ANALYSIS OF ALGORITHMS I
COMS W4236	INTRO-COMPUTATIONAL COMPLEXITY
COMS W4701	ARTIFICIAL INTELLIGENCE
COMS W4705	NATURAL LANGUAGE PROCESSING
COMS W4731	Computer Vision I: First Principles
COMS W4733	COMPUTATIONAL ASPECTS OF ROBOTICS
CBMF W4761	COMPUTATIONAL GENOMICS
COMS W4771	MACHINE LEARNING
CSEE W4824	COMPUTER ARCHITECTURE
CSEE W4868	SYSTEM-ON-CHIP PLATFORMS

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

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## MAJOR IN ECONOMICS-MATHEMATICS

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## MAJOR IN MATHEMATICS-STATISTICS

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The program is designed to prepare the student for: (1) a career in industries such as finance and insurance that require a high level of mathematical sophistication and a substantial knowledge of probability and statistics, and (2) graduate study



in quantitative disciplines. Students choose electives in finance, actuarial science, operations research, or other quantitative fields to complement requirements in mathematics, statistics, and computer science.

The major requires 38-43 points as follows:

### Mathematics

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010 & MATH UN2500	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA and ANALYSIS AND OPTIMIZATION <sup>1</sup>
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OR

MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010 & MATH UN2500	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA and ANALYSIS AND OPTIMIZATION <sup>1</sup>
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OR

MATH UN1207 & MATH UN1208 & MATH UN2500	HONORS MATHEMATICS A and HONORS MATHEMATICS B and ANALYSIS AND OPTIMIZATION (with approval from the adviser)
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### Statistics

#### Introductory Course

STAT UN1201	CALC-BASED INTRO TO STATISTICS
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#### Required Courses

STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS

Select one of the following courses:

STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance
STAT GU4264	STOCHASTIC PROCESSES-APPLIED I
STAT GU4265	STOCHASTIC METHODS IN FINANCE

### Computer Science

Select one of the following courses:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
COMS W1007	

or an advanced computer science offering in programming

### Electives

An approved selection of three advanced courses in mathematics, statistics, applied mathematics, industrial engineering and operations research, computer science, or approved mathematical methods courses in a quantitative discipline. At least one elective must be a Mathematics Department course numbered 3000 or above.

<sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

Students interested in modeling applications are recommended to take MATH UN2030 ORDINARY DIFFERENTIAL EQUATIONS and MATH UN3028 PARTIAL DIFFERENTIAL EQUATIONS.

Students interested in finance are recommended to take MATH GR5010 INTRO TO THE MATH OF FINANCE, STAT GU4261 STATISTICAL METHODS IN FINANCE, and STAT GU4221 TIME SERIES ANALYSIS.

Students interested in graduate study in mathematics or in statistics are recommended to take MATH GU4061 INTRO MODERN ANALYSIS I and MATH GU4062 INTRO MODERN ANALYSIS II.

Students preparing for a career in actuarial science are encouraged to replace STAT GU4205 LINEAR REGRESSION MODELS with STAT GU4282 Linear Regression and Time Series Methods , and to take among their electives STAT GU4281 Theory of Interest .

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## MINOR IN MATHEMATICS

The Minor in Mathematics aims to provide students with a solid foundation of mathematical concepts. The program focuses on essential coursework, including multivariable calculus and linear algebra.

The minor functions as a complement to a number of closely related majors, including physics, economics, and computer science. Designed for accessibility, the minor emphasizes foundational understanding rather than proof-based courses, distinguishing it from the comprehensive Mathematics major.

Students in economics, computer science, statistics, physics, and similar natural science programs such as biology and climate science may be particularly interested in the minor. However, its versatile skillset extends beyond these disciplines. Students in language programs, art, and other humanities can also benefit from the minor's quantitative proficiency, enhancing their studies and future career prospects.

Students start with the minor requirements, e.g. with advanced placement sufficient to start the Multivariable Calculus/ Linear Algebra component. Upon completion of the minor, students will have acquired the skills and knowledge to carry out basic and advanced computations, formulate and solve problems, both internal to mathematics and arising from real world applications.

The minor consists of 15-17 points, as follows:

1. Multivariable calculus
2. Linear Algebra
3. Three approved elective courses (at least 9 points), two of which must be 2000+ level courses offered by the Mathematics department. The third course may either be an additional course in Math, or selected from a list of approved cognate courses<sup>1</sup>. Only one Undergraduate Seminar in Mathematics (MATH UN3951 UNDERGRADUATE SEMINARS I or MATH UN3952 UNDERGRADUATE SEMINARS II) may count towards the minor requirements.

### Multivariable Calculus & Linear Algebra

Select one of the following five multivariable and linear algebra sequences:

MATH UN1202 & MATH UN2010	CALCULUS IV and LINEAR ALGEBRA
OR	
MATH UN1202 & MATH UN2015	CALCULUS IV and Linear Algebra and Probability
OR	
MATH UN1205 & MATH UN2010	ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
OR	
MATH UN1205 & MATH UN2015	ACCELERATED MULTIVARIABLE CALC and Linear Algebra and Probability
OR	
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

### Electives

Select three elective courses (at least 9 points), two of which must be 2000+ level courses offered by the Mathematics department. The third course may either be an additional course in Math, or selected from a list of approved cognate courses.<sup>1</sup>

Only one Undergraduate Seminar in Mathematics (MATH UN3951 UNDERGRADUATE SEMINARS I or MATH UN3952 UNDERGRADUATE SEMINARS II) may count towards the minor requirements.

<sup>1</sup> See the list of approved cognate courses under the Major in Mathematics

## Prerequisites

Prerequisites for the courses in (1) Multivariable calculus and (2) Linear Algebra are as follows:

- MATH UN1202 CALCULUS IV: requires MATH UN1102 CALCULUS II and MATH UN1201 CALCULUS III
- MATH UN1205 ACCELERATED MULTIVARIABLE CALC: requires MATH UN1101 CALCULUS I and MATH UN1102 CALCULUS II
- MATH UN2010 LINEAR ALGEBRA: MATH UN1201 CALCULUS III (strongly recommended)
- MATH UN2015 Linear Algebra and Probability: MATH UN1101 CALCULUS I (strongly recommended)

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## MINOR IN MATHEMATICAL PROBABILITY

Probability Theory is a core mathematical subject with deep connections to a wide variety of disciplines. Many fundamental probabilistic concepts and problems stem from such fruitful interactions, from material sciences (e.g. percolation) to social sciences and computer science (e.g. random networks). The Minor in Mathematical Probability is a focused minor aiming at providing students majoring in these disciplines with a solid mathematical foundation organized around the probabilistic concepts pertinent to their main program of study. The transversal nature of probability both in science at large, and in terms of university structure, is underlined by the option of satisfying some core and elective requirements in other departments, such as Statistics and Industrial Engineering and Operation Research.

The minor naturally complements programs of study in natural and social sciences. As a focused minor, it also provides students with precise guidance on choices of coursework with direct relevance to and synergy with their major.

Students start with the minor requirements, e.g. with advanced placement sufficient to start the Multivariable Calculus/ Linear Algebra component. Upon completion of the minor, students will have acquired core mathematical skillsets motivated and illustrated by interactions with other disciplines, organized around theoretical and applied probability. The specialized structure and designation of the minor may also benefit career and professional development.

The minor consists of 15-17 points, as follows:

1. Multivariable calculus
2. Linear Algebra
3. Probability Theory
4. Two approved elective courses (at least 6 points), at least one of which is an approved course offered by the Mathematics Department. The second course may either be an additional course in Math, or selected from the list of approved cognate courses.

### Multivariable Calculus & Linear Algebra

MATH UN1201 & MATH UN2010	CALCULUS III and LINEAR ALGEBRA
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OR

MATH UN1201 & MATH UN2015	CALCULUS III and Linear Algebra and Probability
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OR

MATH UN1205 & MATH UN2010	ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
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OR

MATH UN1205 & MATH UN2015	ACCELERATED MULTIVARIABLE CALC and Linear Algebra and Probability
OR	
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B
<b>Probability Theory</b>	
MATH GU4155 or STAT GU4203 or IEOR E3658	PROBABILITY THEORY PROBABILITY THEORY PROBABILITY FOR ENGINEERS
<b>Electives</b>	
Select two elective courses (at least 6 points), at least one of which is an approved course offered by the Mathematics Department. The second course may either be an additional course in Math, or selected from the list of approved cognate courses below.	
<b>Approved Mathematics Electives</b>	
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH UN3028	PARTIAL DIFFERENTIAL EQUATIONS
MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GU4061	INTRO MODERN ANALYSIS I
MATH GU4062	INTRO MODERN ANALYSIS II
MATH GU4156	ADVANCED PROBABILITY THEORY
<b>Approved Cognate Electives</b>	
COMS W3203	DISCRETE MATHEMATICS
IEOR E3106	STOCHASTIC SYSTEMS AND APPLICATIONS
PHIL GU4561	PROBABILITY # DECISION THEORY
PHYS GU4023	THERMAL # STATISTICAL PHYSICS
STAT GU4204	STATISTICAL INFERENCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance
STAT GU4264	STOCHASTIC PROCESSES-APPLIED I

## Prerequisites

Prerequisites for the courses in (1) Multivariable calculus and (2) Linear Algebra are as follows:

- MATH UN1201 CALCULUS III: requires MATH UN1101 CALCULUS I
- MATH UN1205 ACCELERATED MULTIVARIABLE CALC: requires MATH UN1101 CALCULUS I and MATH UN1102 CALCULUS II
- MATH UN2010 LINEAR ALGEBRA: MATH UN1201 CALCULUS III (strongly recommended)
- MATH UN2015 Linear Algebra and Probability: MATH UN1101 CALCULUS I (strongly recommended)

Prerequisites for the courses in (3) Probability Theory are as follows:

- MATH GU4155 PROBABILITY THEORY: MATH GU4061 INTRO MODERN ANALYSIS I (approved elective)
- STAT GU4203 PROBABILITY THEORY: At least one semester, and preferably two, of calculus. An introductory course (STAT UN1201 CALC-BASED INTRO TO STATISTICS, preferably) is strongly recommended
- IEOR E3658 PROBABILITY FOR ENGINEERS: Solid knowledge of calculus, including multiple variable integration

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## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### CONCENTRATION IN MATHEMATICS

The concentration requires the following:

**Mathematics**

Select one of the following three multivariable calculus and linear algebra sequences:

MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1205 & MATH UN2010	ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B
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**Additional Courses**

Select at least 12 additional points from any of the courses offered by the department numbered 2000 or higher. A maximum of 3 credits may be taken from courses outside the department. <sup>2</sup>

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.
- <sup>2</sup> For mathematics courses taken in other departments, consult with the Director of Undergraduate Studies.

Any course given by the Mathematics department fulfills the General Studies quantitative reasoning requirement when passed with a satisfactory letter grade.

## MATHEMATICS-STATISTICS

### THE DEPARTMENT OF MATHEMATICS

**Department website:** <http://www.math.columbia.edu>

**Director of Undergraduate Studies**

Julien Dubedat, 601 Mathematics; 212-854-8806; [jd2653@columbia.edu](mailto:jd2653@columbia.edu)

**Undergraduate Academic Coordinator**

TBD

**THE STUDY OF MATHEMATICS**

The major in mathematics is an introduction to some of the highlights of the development of theoretical mathematics over the past four hundred years from a modern perspective. This study is also applied to many problems, both internal to mathematics and arising in other disciplines such as physics, cryptography, and finance.

Majors begin by taking either Honors mathematics or the calculus sequence. Students who do not take MATH UN1207 HONORS MATHEMATICS A and MATH UN1208 HONORS MATHEMATICS B normally take MATH UN2010 LINEAR ALGEBRA in the second year. Following this, majors begin to learn some aspects of the main branches of modern mathematics: algebra, analysis, and geometry; as well as some of their subdivisions and hybrids (e.g., number theory, differential geometry, and complex analysis). As the courses become more advanced, they also become more theoretical and proof-oriented and less computational.

Aside from the courses offered by the Mathematics Department, cognate courses in areas such as astronomy, chemistry, physics, probability, logic, economics, and computer science can be used toward the major. A cognate course must be a 2000-level (or higher) course and must be approved by the director of undergraduate studies. In general, a course not taught by the Mathematics Department is a cognate course for the mathematics major if either (a) it has at least two semesters of calculus as a stated prerequisite, or (b) the subject matter in the course is mathematics beyond an elementary level, such as PHIL UN3411 SYMBOLIC LOGIC, in the Philosophy Department, or COMS W3203 DISCRETE MATHEMATICS, in the Computer Science Department. A list of pre-approved cognate courses can be found under the [major requirements](#).



Another requirement for majors is participation in an undergraduate seminar, usually in the junior or senior year. Applied math majors must take the undergraduate applied math seminar sequence in both the junior and senior year. In these seminars, students gain experience in learning an advanced topic and lecturing on it. In order to be eligible for departmental honors, majors must write a senior thesis.

## Student Advising

### Director of Undergraduate Studies

Prof. Julien Dubedat, 601 Mathematics; 212-854-8806; [jd2653@columbia.edu](mailto:jd2653@columbia.edu)

### Calculus Director

Prof. George Dragomir, 525 Mathematics; 212-854-2849; [gd2572@columbia.edu](mailto:gd2572@columbia.edu)

### Computer Science-Mathematics Advisers

*Computer Science*: Dr. Jae Woo Lee, 715 CEPSR; 212-939-7066; [jae@cs.columbia.edu](mailto:jae@cs.columbia.edu)

*Mathematics*: Prof. Chiu-Chu Melissa Liu, 623 Mathematics; 212-854-2499; [ccliu@math.columbia.edu](mailto:ccliu@math.columbia.edu)

### Economics-Mathematics Advisers

*Economics*: Dr. Susan Elmes, 1006 International Affairs Building; 212-854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)

*Mathematics*: Prof. Francesco Lin, 613 Mathematics; 212-854-2192; [f\\_lj2653@columbia.edu](mailto:f_lj2653@columbia.edu) [l2550@columbia.edu](mailto:l2550@columbia.edu) ([fl2550@columbia.edu](mailto:fl2550@columbia.edu))

### Mathematics-Statistics Advisers

*Mathematics*: Prof. Andrew Blumberg, 607 Mathematics; 212-851-9307; [a\\_jd2653@columbia.edu](mailto:a_jd2653@columbia.edu) [b4808@columbia.edu](mailto:b4808@columbia.edu) ([ab4808@columbia.edu](mailto:ab4808@columbia.edu))

*Statistics*: Dr. Ronald Neath, 612 Watson; 212-853-1398; [rcn2112@columbia.edu](mailto:rcn2112@columbia.edu)

## Enrolling in Classes

Most undergraduate level courses in Mathematics can be taken once the prerequisite courses have been completed. Any exceptions to waive a prerequisite requirement must be obtained by writing to the Director of Undergraduate Studies.

Students who wish to register for a section of either Supervised Readings and/or Senior Thesis must first identify a faculty sponsor, determine a suitable topic, and obtain written permission from the Director of Undergraduate Studies. Refer to the Undergraduate Research and Senior Thesis section, below.

## Preparing for Graduate Study

Departmental advisors can offer advice about and help with graduate school applications. The Mathematics department also runs a Master's degree program in mathematical finance and a Ph.D. program in mathematics.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Comprehensive information on college level coursework taken outside Columbia University are described on the College's Academic Regulation website or the General Studies Transfer Credit website.

## Advanced Placement

AP or IB calculus may count towards degree requirements, subject to completion of a higher level course:

- The department grants 3 credits for a score of 4 or 5 on the AP Calculus AB exam provided students complete MATH UN1102 CALCULUS II or MATH UN1201 CALCULUS III with a grade of C or better.
- The department grants 3 credits for a score of 4 on the AP Calculus BC exam provided students complete MATH UN1102 CALCULUS II or MATH UN1201 CALCULUS III with a grade of C or better.
- The department grants 6 credits for a score of 5 on the AP Calculus BC exam provided students complete MATH UN1201 CALCULUS III or MATH UN1205 ACCELERATED MULTIVARIABLE CALC or MATH UN1207 HONORS MATHEMATICS A with a grade of C or better.

Students can receive credit for only one calculus sequence. Other college level courses taken during high school may substitute for course prerequisites pending the approval of the Director of Undergraduate Studies, but will not confer credits.

## Barnard College Courses

Any course offered by the Mathematics@Barnard department will count towards degree requirements.

## Transfer Courses

Courses taken at other colleges or universities may be evaluated for transfer credit. A maximum of 16 transfer credits may be granted. A maximum of 6 transfer credits may be counted towards minor requirements.

- Course equivalency requests for any Calculus level course, Linear Algebra, or Ordinary Differential Equations must be submitted to the Calculus Director for evaluation.
- Course equivalency requests for any other mathematics course must be submitted to the Director of Undergraduate Studies for evaluation.

## Study Abroad Courses

Although study abroad is not an integral part of your studies in mathematics, it can provide you with exposure to a different culture and a different educational system, and, as such, can be very fulfilling. You may also want to participate in the Budapest Mathematical Seminar or similar programs in your junior year. Keep in mind, however, that study abroad requires careful planning. If you are seriously considering studying abroad, you should consult with the Director of Undergraduate Studies as early in your program as possible in order to plan your major accordingly and to incorporate study abroad courses that are compatible with your major in mathematics.

## Summer Courses

Any mathematics or approved cognate course offered during the summer session will count towards the degree, with the exception of online only courses, which *do not* count towards degree requirements.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

*MATH UN3901 Supervised Readings I* (fall term only)

*MATH UN3902 Supervised Readings II* (spring term only)

Prerequisites: The written permission of the faculty member who agrees to act as sponsor (sponsorship limited to full-time instructors on the staff list), as well as the permission of the Director of Undergraduate Studies. The written permission must be deposited with the Director of Undergraduate Studies before registration is completed.

Guided reading and study in mathematics. A student who wishes to undertake individual study under this program must present a specific project to a member of the staff and secure his or her willingness to act as sponsor. Written reports and periodic conferences with the instructor. Supervising Readings do NOT count towards major requirements, with the exception of an advanced written approval by the Director of Undergraduate Studies.

### Senior Thesis Coursework and Requirements

A Senior Thesis in Mathematics is an original presentation of a subject in pure or applied mathematics from sources in the published literature. The thesis must demonstrate significant independent work of the author. A thesis is expected to be between 20 and 50 pages with complete references and must have a substantial expository component to be well received.

A student who is interested in writing a senior thesis needs to identify a faculty member in the Department of Mathematics as an advisor, determine an appropriate topic, and receive the written approval from the faculty advisor and the Director of Undergraduate Studies. The research of the thesis is conducted primarily during the fall term and the final paper is submitted to the Director of Undergraduate Studies by the end of March.

Students must register for *MATH UN3994 SENIOR THESIS IN MATHEMATICS I* (4 credits) in the fall semester of their senior year. An optional continuation course *MATH UN3995 SENIOR THESIS IN MATHEMATICS II* (2 credits) is available during the spring. The second term of this sequence may not be taken without the first. Registration for the spring continuation course has no impact on the timeline or outcome of the final paper. Sections of Senior Thesis in Mathematics I and II do NOT count towards the major requirements, unless prior written approval is obtained from the Director of Undergraduate Studies.

## Undergraduate Research Outside of Courses

The department runs several undergraduate research programs aimed at math majors. Opportunities are available during the academic year and summer terms.

The Undergraduate Mathematics Society is the department's undergraduate club. Detailed information on membership, Society-sponsored seminars and activities, and archival resources are available on the Society's Web site. The department also sponsors workshops and weekly seminars in mathematics, and posts information about special lectures, conferences, and seminars at nearby schools.

In addition, the Association for Women in Mathematics Columbia Chapter connects students and professors interested in mathematics at Columbia University and Barnard College as part of a broader effort to encourage women and girls to study and to have active careers in the mathematical sciences, and to promote equal opportunity for and the equal treatment of women and girls in the STEM fields.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

To be recommended to the College Committee on Honors, Awards, and Prizes, which makes the final decisions on all honors' recipients, you must have a GPA of 3.63 in the major and have completed a senior thesis of merit. For more information on researching and writing the senior thesis and on departmental honors, you should consult with the Director of Undergraduate Studies. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

### Academic Prizes

#### Putnam Exam

The Putnam exam is a nationwide competitive exam administered each year on the first Saturday in December. A faculty member conducts coaching sessions for students who are interested in competing.

#### Columbia Prizes

Several prizes for excellence in mathematics are awarded each year to undergraduates, based on performance on a prize exam scheduled each spring. These include:

- Professor Van Amringe Mathematical Prize
  - This prize, established in 1910 by George G. Dewitt, Class of 1867, may be awarded to a first year, a sophomore, and a junior student in the College who are deemed most proficient in the mathematical subjects designated during the year of the award.
- John Dash Van Buren Jr. Prize in Mathematics
  - Established in 1906 by Mrs. Louis T. Hoyt in memory of her nephew, John Dash Van Buren, Jr., Class of 1905, this prize may be awarded to a Columbia College senior degree candidate who writes the best examination in subjects prescribed by the Mathematics Department.

## OTHER IMPORTANT INFORMATION

Other helpful information may be found on the Department of Mathematics website.

## PROFESSORS

- David A. Bayer (Barnard)
- Andrew Blumberg
- Simon Brendle
- Ivan Corwin
- Panagiotas Daskalopoulos
- Aise Johan de Jong (Department Chair)
- Daniela De Silva (Barnard Chair)
- Julien Dubedat
- Robert Friedman

- Dorian Goldfeld
- Brian Greene
- Richard Hamilton
- Michael Harris
- Ioannis Karatzas
- Alisa Knizel (Barnard)
- Chiu-Chu Liu
- Dusa McDuff (Barnard)
- Andrei Okounkov
- D. H. Phong
- Ovidiu Savin
- Michael Thaddeus
- Eric Urban
- Mu-Tao Wang

## ASSOCIATE PROFESSORS

- Amol Aggarwal
- Chao Li
- Francesco Lin
- Lindsay Piechnik (Barnard)

## ASSISTANT PROFESSORS

- Elena Giorgi
- Giulia Sacca
- Mehtaab Sawhney

## J.F. RITT ASSISTANT PROFESSORS

- Rostislav Akhmechet
- Amadou Bah
- Deeparaj Bhat
- Jeanne Boursier
- Marco Castronovo
- Brian Harvie
- Qiao He
- Sven Hirsch
- Andres Ibanez Nunez
- Yoonjoo Kim
- Siddhi Krishna
- Gyujin Oh
- Marco Sangiovanni Vincentelli
- Dawei Shen
- Xi Sisi Shen
- Evan Sorensen
- Roger Van Peski
- Lucy Yang

## SENIOR LECTURERS IN DISCIPLINE

- Mikhail Smirnov
- Peter Woit

## LECTURERS IN DISCIPLINE

- George Dragomir

## ON LEAVE

- Fall 2024: Profs. Aggarwal, Bayer, Giorgi, Li, Sawhney, Shen, Wang
- Spring 2025: Profs. Aggarwal, Bayer, Li, Liu, Sawhney, Urban, Wang

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN MATHEMATICS PROGRAM PLANNING FOR ALL STUDENTS

### Placement in the Calculus Sequences

#### Calculus I

Students who have essentially mastered a precalculus course and those who have a score of 3 or less on an Advanced Placement (AP) exam (either AB or BC) should begin their study of calculus with MATH UN1101 CALCULUS I.

#### Calculus II and III

Students with a score of 4 or 5 on the AB exam, 4 on the BC exam, or those with no AP score but with a grade of A in a full year of high school calculus may begin with either MATH UN1102 CALCULUS II or MATH UN1201 CALCULUS III.

Note that such students who decide to start with Calculus III may still need to take Calculus II since it is a requirement or prerequisite for other courses. In particular, they **MUST** take Calculus II before going on to MATH UN1202 CALCULUS IV. Students with a score of 5 on the BC exam may begin with Calculus III and do not need to take Calculus II.

Those with a score of 4 or 5 on the AB exam or 4 on the BC exam may receive 3 points of AP credit upon completion of Calculus II with a grade of C or higher. Those students with a score of 5 on the BC exam may receive 6 points of AP credit upon completion of Calculus III with a grade of C or higher.

#### Accelerated Multivariable Calculus

Students with a score of 5 on the AP BC exam or 7 on the IB HL exam may begin with MATH UN1205 ACCELERATED MULTIVARIABLE CALC. Upon completion of this course with a grade of C or higher, they may receive 6 points of AP credit.

#### Honors Mathematics A

Students who want a proof-oriented theoretical sequence and have a score of 5 on the BC exam may begin with MATH UN1207 HONORS MATHEMATICS A, which is especially designed for mathematics majors. Upon completion of this course with a grade of C or higher, they may receive 6 points of AP credit.

### Transfer Inside the Calculus Sequences

Students who wish to transfer from one calculus course to another are allowed to do so beyond the date specified on the Academic Calendar. They are considered to be adjusting their level, not changing their program. However, students must obtain the approval of the new instructor and their advising dean prior to reporting to the Office of the Registrar.

### Grading

No course with a grade of D or lower can count toward the major, interdepartmental major, minor, or concentration.

### Double Counting

Students who are doing a double major should review the College Bulletin's policy on [Double Counting Courses towards Requirements](#). In general, courses in the Calculus sequence may be counted towards both majors, with up to two additional MATH UN2xxx or higher level courses at the discretion of all approving departments. Students pursuing a minor may double count at most one additional MATH UN2xxx or higher level course.

### Planning Forms

[Planning forms](#) for all programs are available on our website. These forms should be completed and approved by a department adviser early in the semester of the expected graduation date.



## COURSE NUMBERING STRUCTURE

- 1000-2000 Level courses are intended to be introductory courses (such as the Calculus sequence and Linear Algebra).
- 3000-4000 Level courses cover more advanced mathematics, as well as supervised readings, undergraduate seminars, and senior theses.
- 5000 Level courses are Master's level courses.
- 6000 Level and above are PhD level courses.

## GUIDANCE FOR FIRST-YEAR STUDENTS

The systematic study of mathematics begins with one of the following three alternative calculus and linear algebra sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA
OR	
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
OR	
MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B

Credit is allowed for only one calculus and linear algebra sequence.

*Calculus I, II* is a standard course in single-variable differential and integral calculus; *Calculus III, IV* is a standard course in multivariable differential and integral calculus; *Accelerated Multivariable Calculus* is an accelerated course in multivariable differential and integral calculus.

While *Calculus II* is no longer a prerequisite for *Calculus III*, students are strongly urged to take it before taking *Calculus III*. In particular, students thinking of majoring or concentrating in mathematics or one of the joint majors involving mathematics should take *Calculus II* before taking *Calculus III*. Note that *Calculus II* is a prerequisite for *Accelerated Multivariable Calculus*, and both *Calculus II* and *Calculus III* are prerequisites for *Calculus IV*.

The third sequence, *Honors Mathematics A/B*, is for exceptionally well-qualified students who have strong Advanced Placement scores. It covers multivariable calculus (MATH UN1201 CALCULUS III - MATH UN1202 CALCULUS IV) and linear algebra (MATH UN2010 LINEAR ALGEBRA), with an emphasis on theory.

## GUIDANCE FOR TRANSFER STUDENTS

Consideration for AP, IB and transfer credit is as follows:

Equivalent to *MATH UN1101 Calculus I*:

- A score of 4 on the Calculus BC Advanced Placement exam.
- A score of 4 or 5 on the Calculus AB Advanced Placement exam.
- A score of 6 on the IB Mathematics: analysis and approaches HL exam (2021 or later) or a score of 6 on the IB HL Mathematics or Further Mathematics exams (2020 or earlier).
- A score of 6 or 7 on the IB Mathematics: applications and interpretation HL exam (2021 or later) or a score of 6 or 7 on the IB SL Mathematics exam (2020 or earlier). This does not include the IB "Mathematical Studies SL" exam.
- An A on the A-Level Mathematics exam or a B in A-Level Further Mathematics exam in the U.K.
- A grade of A in a full year of high school calculus.

Equivalent to *MATH 1101 Calculus I* and *MATH 1102 Calculus II*:

- A score of 5 on the Calculus BC Advanced Placement.
- A score of 7 on the IB Mathematics: analysis and approaches HL exam (2021 or later) or a score of 7 on the IB HL Mathematics or Further Mathematics exams (2020 or earlier).
- An A on the A-Level Further Mathematics exam in the U.K.

## UNDERGRADUATE PROGRAMS OF STUDY

### MAJOR IN MATHEMATICS

The major requires 40-42 points as follows:

Select one of the following three calculus and linear algebra sequences (13-15 points including Advanced Placement Credit):

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B

12 points in the following courses:

MATH GU4041	INTRO MODERN ALGEBRA I
MATH GU4042	INTRO MODERN ALGEBRA II
MATH GU4061	INTRO MODERN ANALYSIS I <sup>2</sup>
MATH GU4062	INTRO MODERN ANALYSIS II <sup>2</sup>

3 points in the following:

MATH UN3951 or MATH UN3952	UNDERGRADUATE SEMINARS I <sup>3</sup> UNDERGRADUATE SEMINARS II
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12 points from the following:

1) Courses offered by the department numbered 2000 or higher <sup>3</sup>

2) Courses from the list of approved cognate courses below. A maximum of 6 credits may be taken from courses outside the department. <sup>4</sup>

<sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

<sup>2</sup> Students who are not contemplating graduate study in mathematics may replace one or both of the two terms of MATH GU4061- MATH GU4062 by one or two of the following courses: MATH UN2500 ANALYSIS AND OPTIMIZATION, MATH UN3007 COMPLEX VARIABLES, MATH UN3028 PARTIAL DIFFERENTIAL EQUATIONS, or MATH GU4032 FOURIER ANALYSIS.

<sup>3</sup> Only one Undergraduate Seminar may count towards the major requirements.

<sup>4</sup> Additional courses may be selected only with prior written approval from the Director of Undergraduate Studies.

The program of study should be planned with a departmental adviser before the end of the sophomore year. Majors who are planning on graduate studies in mathematics are urged to obtain a reading knowledge of one of the following languages: French, German, or Russian.

Majors are offered the opportunity to write an honors senior thesis under the guidance of a faculty member. Interested students should refer to the "Undergraduate Research and Senior Thesis" section on the Overview tab for additional information.

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**Approved Cognate Courses 1**

APMA E2101 INTRO TO APPLIED MATHEMATICS  
 APMA E3102 APPLIED MATHEMATICS II: PDE'S  
 APMA E4300 COMPUT MATH:INTRO-NUMERCL METH  
 APMA E4302 METHODS IN COMPUTATIONAL SCI  
 APPH E6102 PLASMA PHYSICS II  
 CBMF W4761 COMPUTATIONAL GENOMICS  
 CHEM UN3079 PHYSICAL CHEMISTRY I-LECTURES  
 CHEM UN3080 PHYSICAL CHEMISTRY II-LECTURES  
 COMS W3134 Data Structures in Java  
 COMS W3157 ADVANCED PROGRAMMING  
 COMS W3203 DISCRETE MATHEMATICS  
 COMS W3261 COMPUTER SCIENCE THEORY  
 COMS W4111 INTRODUCTION TO DATABASES  
 COMS W4160 COMPUTER GRAPHICS  
 COMS W4162 Advanced Computer Graphics  
 COMS W4203 Graph Theory  
 COMS W4261 INTRO TO CRYPTOGRAPHY  
 COMS W4460 PRIN-INNOVATN/ ENTREPRENEURSHIP  
 COMS W4701 ARTIFICIAL INTELLIGENCE  
 COMS W4705 NATURAL LANGUAGE PROCESSING  
 COMS W4762 Machine Learning for Functional Genomics  
 COMS W4771 MACHINE LEARNING  
  
 COMS W4773 Machine Learning Theory  
 CSEE W3827 FUNDAMENTALS OF COMPUTER SYSTS  
 CSOR W4231 ANALYSIS OF ALGORITHMS I  
 CSOR W4246 ALGORITHMS FOR DATA SCIENCE  
 CSPH G4801  
 CSPH G4802 Math Logic II: Incompleteness

**Approved Cognate Courses 2**

ECON UN3025 FINANCIAL ECONOMICS  
 ECON BC3035 INTERMEDIATE MICROECONOMICS  
 ECON BC3038 INTERNATIONAL MONEY # FINANCE  
 ECON UN3211 INTERMEDIATE MICROECONOMICS  
 ECON UN3213 INTERMEDIATE MACROECONOMICS  
 ECON UN3265 MONEY AND BANKING  
 ECON UN3412 INTRODUCTION TO ECONOMETRICS  
 ECON GU4020 ECON OF UNCERTAINTY # INFORMTN  
 ECON GU4230 ECONOMICS OF NEW YORK CITY  
 ECON GU4280 CORPORATE FINANCE  
 ECON GU4415 GAME THEORY  
 ECON GU4710 FINANCE AND THE REAL ECONOMY  
 EEOR E6616 CONVEX OPTIMIZATION  
 EESC UN3400 COMPUTATIONAL EARTH SCIENCE  
 EESC GU4008 Introduction to Atmospheric Science  
 EESC GU4090 INTRO TO GEOCHRONOLGY  
 EESC GU4924 INTRO TO ATMOSPHERIC CHEMISTRY  
 IEOR E3106 STOCHASTIC SYSTEMS AND APPLICATIONS  
 IEOR E3658 PROBABILITY FOR ENGINEERS  
 IEOR E4700 INTRO TO FINANCIAL ENGINEERING  
 IEOR E6613 Optimization, I  
 MSAE E3010 FOUNDATIONS OF MATERIALS SCIENCE  
 MSAE E3111 THERMO/KINETIC THRY/STAT MECH  
 PHIL UN3411 SYMBOLIC LOGIC  
 PHIL GU4424 MODAL LOGIC  
 PHIL GU4431 INTRODUCTION TO SET THEORY  
 PHIL GU4561 PROBABILITY # DECISION THEORY  
 PHIL GU4810 LATTICES AND BOOLEAN ALGEBRA

**Approved Cognate Courses 3**

PHYS UN2601 PHYSICS III:CLASS/ QUANTUM WAVE  
 PHYS UN2801 ACCELERATED PHYSICS I  
 PHYS UN2802 ACCELERATED PHYSICS II  
 PHYS UN3003 MECHANICS  
 PHYS UN3007 ELECTRICITY-MAGNETISM  
 PHYS UN3008 ELECTROMAGNETIC WAVES # OPTICS  
 PHYS GU4011 PARTICLE ASTROPHYS # COSMOLOGY  
 PHYS GU4018 SOLID STATE PHYSICS  
 PHYS GU4019 MATHEMATICAL METHODS OF PHYSICS  
 PHYS GU4021 QUANTUM MECHANICS I  
 PHYS GU4022 QUANTUM MECHANICS II  
 PHYS GU4023 THERMAL # STATISTICAL PHYSICS  
 PHYS GU4040 INTRO TO GENERAL RELATIVITY  
 PHYS GR6047 QUANTUM FIELD THEORY I  
 PHYS GR6080 SCIENTIFIC COMPUTING  
 POLS GU4700 MATH # STATS FOR POLI SCI  
 STAT UN3106 APPLIED MACHINE LEARNING  
 STAT GU4001 INTRODUCTION TO PROBABILITY AND STATISTICS  
 STAT GU4203 PROBABILITY THEORY  
 STAT GU4204 STATISTICAL INFERENCE  
 STAT GU4205 LINEAR REGRESSION MODELS  
 STAT GU4206 STAT COMP # INTRO DATA SCIENCE  
 STAT GU4207 ELEMENTARY STOCHASTIC PROCESS

## MAJOR IN APPLIED MATHEMATICS

The major requires 37-41 points as follows:

Select one of the following three calculus and linear algebra sequences (13-15 points including Advanced Placement Credit):

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B
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Select one of the following three courses. The selected course may not count as an elective.

MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH GU4032	FOURIER ANALYSIS
MATH GU4061	INTRO MODERN ANALYSIS I

Take each of the following two required courses:

APMA E4901	SEM-PROBLEMS IN APPLIED MATH (junior year)
APMA E4903	SEM-PROBLEMS IN APPLIED MATH (senior year)

18 points in electives, with at least 9 points in Track A electives, or at least 9 points in Track B electives. A maximum of 9 points may be selected from courses outside these tracks, with prior written approval from the Director of Undergraduate Studies.

### TRACK A

MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
MATH UN3007 or MATH GU4065 or APMA E4204	COMPLEX VARIABLES HONORS COMPLEX VARIABLES FUNCTNS OF A COMPLEX VARIABLE
MATH UN3028 or APMA E3102 or APMA E4200	PARTIAL DIFFERENTIAL EQUATIONS APPLIED MATHEMATICS II: PDE'S PARTIAL DIFFERENTIAL EQUATIONS
MATH GU4032	FOURIER ANALYSIS
MATH GU4061	INTRO MODERN ANALYSIS I
MATH GU4062	INTRO MODERN ANALYSIS II
APMA E4100	Applied Analysis
APMA E4101	APPL MATH III:DYNAMICAL SYSTMS
APMA E4150	APPLIED FUNCTIONAL ANALYSIS
APMA E4300	COMPUT MATH:INTRO-NUMERCL METH
APMA E4301	NUMERICAL METHODS/PDE'S
APMA E6301	ANALYTIC METHODS FOR PDE'S
APMA E6302	NUMERICAL ANALYSIS OF PDE'S

### TRACK B

COMS W3203	DISCRETE MATHEMATICS
COMS W3261	COMPUTER SCIENCE THEORY
COMS W4231	ANALYSIS OF ALGORITHMS I
COMS W4261	INTRO TO CRYPTOGRAPHY



MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GU4155 or IEOR E3658 or STAT GU4203	PROBABILITY THEORY PROBABILITY FOR ENGINEERS PROBABILITY THEORY
MATH GU4156	ADVANCED PROBABILITY THEORY
IEOR E3106 or STAT GU4207	STOCHASTIC SYSTEMS AND APPLICATIONS ELEMENTARY STOCHASTIC PROCESS
APMA E4008	Advanced and Applied Linear Algebra
APMA E4306	Applied Stochastic Analysis
ECON GU4415	GAME THEORY

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

## MAJOR IN COMPUTER SCIENCE–MATHEMATICS

The goal of this interdepartmental major is to provide substantial background in each of these two disciplines, focusing on some of the parts of each which are closest to the other. Students intending to pursue a Ph.D. program in either discipline are urged to take additional courses, in consultation with their advisers.

The major requires 20 points in computer science, 19-21 points in mathematics, and two 3-point electives in either computer science or mathematics.

### Computer Science

COMS W1004 or COMS W1007	Introduction to Computer Science and Programming in Java
COMS W3134 or COMS W3137	Data Structures in Java HONORS DATA STRUCTURES # ALGOL
COMS W3157	ADVANCED PROGRAMMING
COMS W3203	DISCRETE MATHEMATICS
COMS W3261	COMPUTER SCIENCE THEORY
CSEE W3827	FUNDAMENTALS OF COMPUTER SYSTS

### Mathematics

Select one of the following three calculus and linear algebra sequences (13-15 points including Advanced Placement Credit):

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS I and CALCULUS II and CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
OR	
MATH UN1101 & MATH UN1102 & MATH UN1207 & MATH UN1208	CALCULUS I and CALCULUS II and HONORS MATHEMATICS A and HONORS MATHEMATICS B
MATH UN3951 or MATH UN3952	UNDERGRADUATE SEMINARS I UNDERGRADUATE SEMINARS II

MATH GU4041	INTRO MODERN ALGEBRA I
<b>Electives</b>	
Select two of the following courses:	
MATH BC2006	COMBINATORICS
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH UN3007	COMPLEX VARIABLES
MATH UN3020	NUMBER THEORY AND CRYPTOGRAPHY
MATH UN3025	MAKING, BREAKING CODES
MATH UN3028	PARTIAL DIFFERENTIAL EQUATIONS
MATH UN3386	DIFFERENTIAL GEOMETRY
MATH GU4032	FOURIER ANALYSIS
MATH GU4042	INTRO MODERN ALGEBRA II
MATH GU4051	TOPOLOGY
MATH GU4053	INTRO TO ALGEBRAIC TOPOLOGY
MATH GU4061	INTRO MODERN ANALYSIS I
MATH GU4062	INTRO MODERN ANALYSIS II
COMS W4111	INTRODUCTION TO DATABASES
COMS W4113	FUND-LARGE-SCALE DIST SYSTEMS
COMS W4115	PROGRAMMING LANG # TRANSLATORS
COMS W4118	OPERATING SYSTEMS I
COMS W4119	COMPUTER NETWORKS
COMS W4152	Engineering Software-as-a-Service
COMS W4156	ADVANCED SOFTWARE ENGINEERING
COMS W4160	COMPUTER GRAPHICS
COMS W4167	COMPUTER ANIMATION
COMS W4170	USER INTERFACE DESIGN
COMS W4181	SECURITY I
CSOR E4231	ANALYSIS OF ALGORITHMS I
COMS W4236	INTRO-COMPUTATIONAL COMPLEXITY
COMS W4701	ARTIFICIAL INTELLIGENCE
COMS W4705	NATURAL LANGUAGE PROCESSING
COMS W4731	Computer Vision I: First Principles
COMS W4733	COMPUTATIONAL ASPECTS OF ROBOTICS
CBMF W4761	COMPUTATIONAL GENOMICS
COMS W4771	MACHINE LEARNING
CSEE W4824	COMPUTER ARCHITECTURE
CSEE W4868	SYSTEM-ON-CHIP PLATFORMS

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

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## MAJOR IN ECONOMICS-MATHEMATICS

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## MAJOR IN MATHEMATICS-STATISTICS

The program is designed to prepare the student for: (1) a career in industries such as finance and insurance that require a high level of mathematical sophistication and a substantial knowledge of probability and statistics, and (2) graduate study

in quantitative disciplines. Students choose electives in finance, actuarial science, operations research, or other quantitative fields to complement requirements in mathematics, statistics, and computer science.

The major requires 38-43 points as follows:

### Mathematics

Select one of the following sequences:

MATH UN1101 & MATH UN1102 & MATH UN1201 & MATH UN2010 & MATH UN2500	CALCULUS I and CALCULUS II and CALCULUS III and LINEAR ALGEBRA and ANALYSIS AND OPTIMIZATION <sup>1</sup>
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OR

MATH UN1101 & MATH UN1102 & MATH UN1205 & MATH UN2010 & MATH UN2500	CALCULUS I and CALCULUS II and ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA and ANALYSIS AND OPTIMIZATION <sup>1</sup>
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OR

MATH UN1207 & MATH UN1208 & MATH UN2500	HONORS MATHEMATICS A and HONORS MATHEMATICS B and ANALYSIS AND OPTIMIZATION (with approval from the adviser)
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### Statistics

#### Introductory Course

STAT UN1201	CALC-BASED INTRO TO STATISTICS
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#### Required Courses

STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS

Select one of the following courses:

STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance
STAT GU4264	STOCHASTIC PROCESSES-APPLIED I
STAT GU4265	STOCHASTIC METHODS IN FINANCE

### Computer Science

Select one of the following courses:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
COMS W1007	

or an advanced computer science offering in programming

### Electives

An approved selection of three advanced courses in mathematics, statistics, applied mathematics, industrial engineering and operations research, computer science, or approved mathematical methods courses in a quantitative discipline. At least one elective must be a Mathematics Department course numbered 3000 or above.

<sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.

Students interested in modeling applications are recommended to take MATH UN2030 ORDINARY DIFFERENTIAL EQUATIONS and MATH UN3028 PARTIAL DIFFERENTIAL EQUATIONS.

Students interested in finance are recommended to take MATH GR5010 INTRO TO THE MATH OF FINANCE, STAT GU4261 STATISTICAL METHODS IN FINANCE, and STAT GU4221 TIME SERIES ANALYSIS.

Students interested in graduate study in mathematics or in statistics are recommended to take MATH GU4061 INTRO MODERN ANALYSIS I and MATH GU4062 INTRO MODERN ANALYSIS II.

Students preparing for a career in actuarial science are encouraged to replace STAT GU4205 LINEAR REGRESSION MODELS with STAT GU4282 Linear Regression and Time Series Methods , and to take among their electives STAT GU4281 Theory of Interest .

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## MINOR IN MATHEMATICS

The Minor in Mathematics aims to provide students with a solid foundation of mathematical concepts. The program focuses on essential coursework, including multivariable calculus and linear algebra.

The minor functions as a complement to a number of closely related majors, including physics, economics, and computer science. Designed for accessibility, the minor emphasizes foundational understanding rather than proof-based courses, distinguishing it from the comprehensive Mathematics major.

Students in economics, computer science, statistics, physics, and similar natural science programs such as biology and climate science may be particularly interested in the minor. However, its versatile skillset extends beyond these disciplines. Students in language programs, art, and other humanities can also benefit from the minor's quantitative proficiency, enhancing their studies and future career prospects.

Students start with the minor requirements, e.g. with advanced placement sufficient to start the Multivariable Calculus/ Linear Algebra component. Upon completion of the minor, students will have acquired the skills and knowledge to carry out basic and advanced computations, formulate and solve problems, both internal to mathematics and arising from real world applications.

The minor consists of 15-17 points, as follows:

1. Multivariable calculus
2. Linear Algebra
3. Three approved elective courses (at least 9 points), two of which must be 2000+ level courses offered by the Mathematics department. The third course may either be an additional course in Math, or selected from a list of approved cognate courses<sup>1</sup>. Only one Undergraduate Seminar in Mathematics (MATH UN3951 UNDERGRADUATE SEMINARS I or MATH UN3952 UNDERGRADUATE SEMINARS II) may count towards the minor requirements.

### Multivariable Calculus & Linear Algebra

Select one of the following five multivariable and linear algebra sequences:

MATH UN1202 & MATH UN2010	CALCULUS IV and LINEAR ALGEBRA
OR	
MATH UN1202 & MATH UN2015	CALCULUS IV and Linear Algebra and Probability
OR	
MATH UN1205 & MATH UN2010	ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
OR	
MATH UN1205 & MATH UN2015	ACCELERATED MULTIVARIABLE CALC and Linear Algebra and Probability
OR	
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B

### Electives

Select three elective courses (at least 9 points), two of which must be 2000+ level courses offered by the Mathematics department. The third course may either be an additional course in Math, or selected from a list of approved cognate courses.<sup>1</sup>

Only one Undergraduate Seminar in Mathematics (MATH UN3951 UNDERGRADUATE SEMINARS I or MATH UN3952 UNDERGRADUATE SEMINARS II) may count towards the minor requirements.

<sup>1</sup> See the list of approved cognate courses under the Major in Mathematics

Prerequisites

Prerequisites for the courses in (1) Multivariable calculus and (2) Linear Algebra are as follows:

- MATH UN1202 CALCULUS IV: requires MATH UN1102 CALCULUS II and MATH UN1201 CALCULUS III
- MATH UN1205 ACCELERATED MULTIVARIABLE CALC: requires MATH UN1101 CALCULUS I and MATH UN1102 CALCULUS II
- MATH UN2010 LINEAR ALGEBRA: MATH UN1201 CALCULUS III (strongly recommended)
- MATH UN2015 Linear Algebra and Probability: MATH UN1101 CALCULUS I (strongly recommended)

MINOR IN MATHEMATICAL PROBABILITY

Probability Theory is a core mathematical subject with deep connections to a wide variety of disciplines. Many fundamental probabilistic concepts and problems stem from such fruitful interactions, from material sciences (e.g. percolation) to social sciences and computer science (e.g. random networks).The Minor in Mathematical Probability is a focused minor aiming at providing students majoring in these disciplines with a solid mathematical foundation organized around the probabilistic concepts pertinent to their main program of study. The transversal nature of probability both in science at large, and in terms of university structure, is underlined by the option of satisfying some core and elective requirements in other departments, such as Statistics and Industrial Engineering and Operation Research.

The minor naturally complements programs of study in natural and social sciences. As a focused minor, it also provides students with precise guidance on choices of coursework with direct relevance to and synergy with their major.

Students start with the minor requirements, e.g. with advanced placement sufficient to start the Multivariable Calculus/ Linear Algebra component. Upon completion of the minor, students will have acquired core mathematical skillsets motivated and illustrated by interactions with other disciplines, organized around theoretical and applied probability. The specialized structure and designation of the minor may also benefit career and professional development.

The minor consists of 15-17 points, as follows:

1. Multivariable calculus
2. Linear Algebra
3. Probability Theory
4. Two approved elective courses (at least 6 points), at least one of which is an approved course offered by the Mathematics Department. The second course may either be an additional course in Math, or selected from the list of approved cognate courses.

Multivariable Calculus & Linear Algebra

MATH UN1201 & MATH UN2010	CALCULUS III and LINEAR ALGEBRA
OR	
MATH UN1201 & MATH UN2015	CALCULUS III and Linear Algebra and Probability
OR	
MATH UN1205 & MATH UN2010	ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA
OR	



MATH UN1205 & MATH UN2015 OR	ACCELERATED MULTIVARIABLE CALC and Linear Algebra and Probability
MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B
<b>Probability Theory</b>	
MATH GU4155 or STAT GU4203 or IEOR E3658	PROBABILITY THEORY PROBABILITY THEORY PROBABILITY FOR ENGINEERS
<b>Electives</b>	
Select two elective courses (at least 6 points), at least one of which is an approved course offered by the Mathematics Department. The second course may either be an additional course in Math, or selected from the list of approved cognate courses below.	
<b>Approved Mathematics Electives</b>	
MATH UN2030	ORDINARY DIFFERENTIAL EQUATIONS
MATH UN2500	ANALYSIS AND OPTIMIZATION
MATH UN3028	PARTIAL DIFFERENTIAL EQUATIONS
MATH UN3050	DISCRETE TIME MODELS IN FINANC
MATH GU4061	INTRO MODERN ANALYSIS I
MATH GU4062	INTRO MODERN ANALYSIS II
MATH GU4156	ADVANCED PROBABILITY THEORY
<b>Approved Cognate Electives</b>	
COMS W3203	DISCRETE MATHEMATICS
IEOR E3106	STOCHASTIC SYSTEMS AND APPLICATIONS
PHIL GU4561	PROBABILITY # DECISION THEORY
PHYS GU4023	THERMAL # STATISTICAL PHYSICS
STAT GU4204	STATISTICAL INFERENCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
STAT GU4262	Stochastic Processes for Finance
STAT GU4264	STOCHASTIC PROCESSES-APPLIED I

## Prerequisites

Prerequisites for the courses in (1) Multivariable calculus and (2) Linear Algebra are as follows:

- MATH UN1201 CALCULUS III: requires MATH UN1101 CALCULUS I
- MATH UN1205 ACCELERATED MULTIVARIABLE CALC: requires MATH UN1101 CALCULUS I and MATH UN1102 CALCULUS II
- MATH UN2010 LINEAR ALGEBRA: MATH UN1201 CALCULUS III (strongly recommended)
- MATH UN2015 Linear Algebra and Probability: MATH UN1101 CALCULUS I (strongly recommended)

Prerequisites for the courses in (3) Probability Theory are as follows:

- MATH GU4155 PROBABILITY THEORY: MATH GU4061 INTRO MODERN ANALYSIS I (approved elective)
- STAT GU4203 PROBABILITY THEORY: At least one semester, and preferably two, of calculus. An introductory course (STAT UN1201 CALC-BASED INTRO TO STATISTICS, preferably) is strongly recommended
- IEOR E3658 PROBABILITY FOR ENGINEERS: Solid knowledge of calculus, including multiple variable integration

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## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### CONCENTRATION IN MATHEMATICS

The concentration requires the following:

**Mathematics**

Select one of the following three multivariable calculus and linear algebra sequences:

MATH UN1201 & MATH UN1202 & MATH UN2010	CALCULUS III and CALCULUS IV and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1205 & MATH UN2010	ACCELERATED MULTIVARIABLE CALC and LINEAR ALGEBRA <sup>1</sup>
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OR

MATH UN1207 & MATH UN1208	HONORS MATHEMATICS A and HONORS MATHEMATICS B
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**Additional Courses**

Select at least 12 additional points from any of the courses offered by the department numbered 2000 or higher. A maximum of 3 credits may be taken from courses outside the department. <sup>2</sup>

- <sup>1</sup> MATH UN2015 Linear Algebra and Probability does NOT replace MATH UN2010 LINEAR ALGEBRA as prerequisite requirements of math courses. Students will not receive full credit for both courses UN2010 and UN2015. Students who have taken MATH UN2015 and consider taking higher level Math courses should contact a major advisor to discuss alternative pathways.
- <sup>2</sup> For mathematics courses taken in other departments, consult with the Director of Undergraduate Studies.

Any course given by the Mathematics department fulfills the General Studies quantitative reasoning requirement when passed with a satisfactory letter grade.

## MEDIEVAL AND RENAISSANCE STUDIES\*

**\*Medieval and Renaissance Studies is offered exclusively as a concentration.**

Department website: <http://www.medren.columbia.edu>

Office location: 653-A Ext. Schermerhorn Hall

Office contact: 212-853-4200, [medren@columbia.edu](mailto:medren@columbia.edu)  
([videogameugrad@columbia.edu](mailto:videogameugrad@columbia.edu))

**Program Director:** Dr. Susan Boynton, Professor of Music, 621 Dodge Hall, [slb184@columbia.edu](mailto:slb184@columbia.edu)

**Program Administrator:** Lauren Palmer, 653-A Ext. Schermerhorn Hall, [medren@columbia.edu](mailto:medren@columbia.edu)

Medieval and Renaissance studies is an interdisciplinary program in which a student combines a minor in medieval or Renaissance civilization with a major or concentration in one of the following departments:

- Art History and Archaeology
- Classics
- East Asian Languages and Cultures
- English and Comparative Literature
- French and Romance Philology
- Germanic Languages

- History
- Italian
- Latin American and Iberian Cultures
- Middle Eastern, South Asian, and African Studies
- Music
- Philosophy
- Religion
- Slavic Languages

For more information about the special concentration in medieval and Renaissance studies, visit <http://medren.columbia.edu/>.

## EXECUTIVE COMMITTEE OF THE INTERDEPARTMENTAL COMMITTEE ON MEDIEVAL AND RENAISSANCE STUDIES

Christopher Baswell (English and Comparative Literature)  
Susan Boynton (Music; Program Director, Medieval and Renaissance Studies)  
Emily Runde (Rare Book and Manuscript Library)  
Gregory Bryda (Art History and Archaeology)  
Seth Kimmel (Latin American and Iberian Cultures)  
Alan Stewart (English and Comparative Literature)  
Michael Waters (Art History and Archaeology)  
Jeffrey Wayno (Columbia University Libraries)  
Hannah Weaver (English and Comparative Literature)

**Full Faculty List:** <https://medren.columbia.edu/content/faculty>

## UNDERGRADUATE PROGRAMS OF STUDY

### Minor in Medieval and Renaissance Studies

Students can earn a minor in Medieval and Renaissance Studies by taking five (5) courses (15-20 points) offered by any of the following departments:

Art History and Archaeology; Classics; East Asian Languages and Cultures; English and Comparative Literature; French and Romance Philology; Germanic Languages; History; Italian; Latin American and Iberian Cultures; Middle Eastern, South Asian, and African Studies; Music; Philosophy; Religion; Slavic Languages.

Courses are to be chosen in consultation with the Director of Medieval and Renaissance Studies, and **courses choices must be approved** in order to count for the minor.

Approved courses usually have a primary focus on the period between 500 and 1700 CE.

### Language Requirement

Students must demonstrate an ability to work with original language sources (other than in Early Modern English) from the medieval and/or Early Modern periods, either through coursework focusing on the historical language (e.g., LATN UN3033 Medieval Latin; MDES GU4214 Fourth Year Classical Arabic I) or through research (e.g., a senior thesis or seminar paper with substantial use of original language sources).

Any courses used to demonstrate the language requirement may also count toward the course requirement for the minor. Students must gain approval of the Director of Medieval and Renaissance Studies before registering for courses to fulfill this language requirement.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Special Concentration in Medieval and Renaissance Studies

Students considering the special concentration in medieval and Renaissance studies should consult with the director in advance of course registration to ensure that their selection of courses will count towards the special concentration.

*Please note that requirements for the Special Concentration were revised November 2017.*

In addition to fulfilling the requirements for a departmental major or concentration, students with this special

concentration should plan on taking an additional four (4) courses in other departments of the program, to be chosen in consultation with an appropriate member of the committee.

Students must also demonstrate an ability to work with original language sources (other than in Early Modern English) from the medieval and/or Early Modern periods, either through language coursework focusing on the historical language (e.g., LATN UN3033 MEDIEVAL LANGUAGE # LITERATURE, MDES GU4214 FOURTH YEAR CLASSICAL ARABIC I) or through research (e.g., a senior thesis or seminar paper with substantial use of original language sources). Any courses outside the major used to demonstrate the language requirement may also count toward the course requirement for the special concentration. Students should gain approval of the director of the program in advance for plans to fulfill this language requirement.

## MIDDLE EASTERN, SOUTH ASIAN, AND AFRICAN STUDIES

**Departmental Office:** 401 Knox; 212-854-2556  
<http://mesaas.columbia.edu>

**Director of Undergraduate Studies:** Hamid Dabashi, 416 Knox Hall, 212-854-7524; [av3096@columbia.edu](mailto:av3096@columbia.edu) ([hd14@columbia.edu](mailto:hd14@columbia.edu))

### Language Coordinators:

*African Languages:* Mariame Sy, 310 Knox; 212-851-2439; [sms2168@columbia.edu](mailto:sms2168@columbia.edu)

*Arabic:* Taoufik Ben Amor, 308 Knox; 212-854-2985; [tb46@columbia.edu](mailto:tb46@columbia.edu)

*Armenian:* Charry Karamanoukian, 311 Knox; 212-851-7083; [ck2444@columbia.edu](mailto:ck2444@columbia.edu)

*Hebrew:* Naama Harel, 413 Knox, 212-854-6519; [nh2508@columbia.edu](mailto:nh2508@columbia.edu)

*Hindi/Urdu:* Rakesh Ranjan, 411 Knox; 212-851-4107; [rr2574@columbia.edu](mailto:rr2574@columbia.edu)

*Persian:* Saeed Honarmand, 313 Knox; [sh3468@columbia.edu](mailto:sh3468@columbia.edu)

*Sanskrit:* Jay Ramesh, 311 Knox; 212-854-2893; [jr3203@columbia.edu](mailto:jr3203@columbia.edu)

*Tamil:* Jay Ramesh, 311 Knox; 212-854-2893; [jr3203@columbia.edu](mailto:jr3203@columbia.edu)

*Turkish:* Zuleyha Mary Fikret, 313 Knox; 212-854-0473; [zc2208@columbia.edu](mailto:zc2208@columbia.edu)

The undergraduate program in Middle Eastern, South Asian, and African studies (MESAAS) offers students the opportunity to study in depth the cultures, ideas, histories, and politics of several overlapping world regions. The program emphasizes a close engagement with intellectual traditions, creative movements, and political debates,

drawing on a wide variety of historical and contemporary sources in literature, religion, political thought, law, the visual and performing arts, and new media. Courses also examine the historical and cultural contexts in which these traditions and debates have been produced.

## MAJORS AND CONCENTRATIONS

Majors develop two closely related skills. The first is linguistic expertise. A minimum of two years of course work in one language is required, and further work (including intensive summer language study) is greatly encouraged, because the aim is to study a cultural field through its own texts and discourses. The Department of Middle Eastern, South Asian, and African Studies offers courses in Arabic, Persian, Ottoman, Turkish, Hebrew, Armenian, Sanskrit, Hindi/Urdu, Tamil, Swahili and Wolof.

The second skill is learning how to think and write about complex cultural formations, drawing on a variety of methods and disciplinary approaches. The approaches vary according to the faculty members' expertise, incorporating methods from relevant fields in the humanities and social sciences, such as literary criticism, film studies, cultural studies, political theory, and intellectual history.

The only difference between the MESAAS major and the concentration is that the latter does not require language proficiency.

## PROFESSORS

Gil Anidjar  
 Muhsin J. Ali al-Musawi  
 Partha Chatterjee (*emeritus*)  
 Hamid Dabashi  
 Mamadou Diouf  
 Laura Fair  
 Wael Hallaq  
 Gil Hochberg  
 Sudipta Kaviraj  
 Rashid Khalidi  
 Mahmood Mamdani  
 Joseph Massad  
 Brinkley Messick  
 Dan Miron (*emeritus*)  
 Timothy Mitchell  
 Sheldon Pollock (*emeritus*)  
 Frances Pritchett (*emerita*)  
 Anupama Rao  
 George Saliba (*emeritus*)  
 Jennifer Wenzel

## ASSOCIATE PROFESSORS

Mana Kia  
 Debashree Mukherjee  
 Alison Vacca

## ASSISTANT PROFESSORS

Isabel Huacuja Alonso  
 Jonathan Peterson  
 Sarah bin Tyer  
 Elaine van Dalen  
 Elleni Centime Zeleke

## SENIOR LECTURERS

Aftab Ahmad  
 May Ahmar  
 Taoufik Ben Amor  
 Zuleyha Fikret  
 Reem Faraj  
 Naama Harel  
 Saeed Honarmand  
 Charry Karamanoukian  
 Abdul Nanji  
 Youssef Nouhi  
 Rakesh Ranjan  
 Mariame Sy

## LECTURERS

Ouijdane Absi  
 Nasr Abdo  
 Rym Bettaieb  
 Illan Gonen  
 Christine Marrewa Karwoski  
 Daniel Katz Shenhar

## ADJUNCT FACULTY

Timsal Masud  
 Khatchig Mouradian

## VISITING FACULTY

Humeira Iqtidar

## GUIDELINES FOR ALL MIDDLE EASTERN, SOUTH ASIAN, AND AFRICAN STUDIES MAJORS AND CONCENTRATORS

### Introduction to MESAAS

Majors and concentrators begin their work with an introductory course that emphasizes a particular area (the Middle East, South Asia, or Africa). For instance, students interested in the Middle East would take MDES UN1003 Premodern Islamic Worlds. Students keen on learning more about South Asia would take ASCM UN2357 INTRO TO

INDIAN CIVILIZATION, HSME UN3810 History of South Asia I: al-Hind to Hindustan, or HIST W3811 South Asia II: Empire and Its Aftermath. The introductory course generally recommended for students interested in Africa is MDES UN2030 Major Debates in the Study of Africa.

## Required Core Courses

All majors must take two additional core courses. The first is a small seminar in which they explore some of the classic texts of the region, either AHUM UN1399 COLLOQUIUM ON MAJOR TEXTS: MIDDLE EAST/INDIA (for those focusing on the Middle East and South Asia) or AFCV UN1020 AFRICAN CIVILIZATION (for those focusing on Africa).

With this background, students are ready to take MDES UN3000 THEORY AND CULTURE generally in the junior or senior year. This course examines critical approaches to the study of language, culture, and politics and encourages students to reflect on their own work from many different perspectives.

## Additional Requirements

Fifteen additional points (generally five courses) are chosen in consultation with the director of undergraduate studies. These may include six points of coursework from other departments, subject to the director of undergraduate studies' approval. Although students may have a particular interest (e.g., Arab political thought, Urdu literature, Armenian history, Iranian cinema, or contemporary West Africa), they are encouraged to gain exposure to the fullest range of courses and approaches offered by the faculty, and to familiarize themselves with other regions beyond their core area.

## In Fulfillment of the Language Requirement (for Majors)

Enrollment in language courses is in some cases determined by placement exams. For more information, see *Languages* on the [departmental website](#) and, if necessary, consult the relevant Coordinator listed on that page. The website includes separate pages for each language, describing the program of instruction, courses for heritage speakers, summer language programs, and more. Language courses must be taken for a letter grade. Pass/D/Fail or Registration credit (R) is not permitted. Those seeking to waive a language requirement must take a proficiency test.

Students who enter with language proficiency at only the second-year level must complete one additional year of language study and one additional MESAAS course. When students enter with language proficiency at the third year level (or in cases where only two years of a particular language are offered in MESAAS), they must substitute three additional MESAAS courses.

## Advising

Newly declared majors and concentrators should meet with the director of undergraduate studies in order to plan a program of study. The goal is to strike a balance between courses that help a student achieve depth in a particular area/discipline and those that foster a wider perspective.

Although students are encouraged to approach faculty in the department based on their specific interests, the director of undergraduate studies functions as an ad hoc adviser for all entering students, addressing issues of course requirements, credit, approval for courses in other departments or schools, study abroad, and, eventually, honors requirements (including the senior thesis). Students should not hesitate to contact the director of undergraduate studies to set up an appointment.

## Grading

Courses in which the grade of D has been received do not count toward the major or concentration requirements, nor do those taken Pass/D/Fail, except for the first course taken toward the major or concentration.

## Honors Program/Senior Thesis

Students may also wish to write a thesis. While not required for graduation, the thesis enables a student to be considered for departmental honors. It is advisable to begin planning for the thesis during the student's junior year. Interested students should attend the relevant information sessions and identify a potential faculty adviser.

All students who wish to write a thesis must enroll in MDES UN3960 HONORS THESIS SEMINAR PART 1, a full year course consisting of a 1-point segment in the Fall semester and a 3-point segment in the Spring semester. Students work closely with their peers in a supportive environment to produce a substantial piece of research (in the range of 40 pages). The primary intellectual guidance is provided by the faculty adviser, whereas the director of undergraduate studies and the honors seminar teaching assistant oversee the general development of the project. Every year in April, MESAAS hosts a senior colloquium in which students present their research. For more information on the honors program, see *Frequently Asked Questions* on the [departmental website](#).

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## MAJOR IN MIDDLE EASTERN, SOUTH ASIAN, AND AFRICAN STUDIES

Students should obtain a Major Declaration form (available in the online major declaration system or from your adviser) and bring it to the director of undergraduate studies for approval. The director of undergraduate studies meets with



students as necessary in order to establish and approve their individual programs of study. The requirements for the major are as follows:

Select a one-term introductory culture course, to be approved by the director of undergraduate studies

AHUM UN1399	COLLOQUIUM ON MAJOR TEXTS: MIDDLE EAST/INDIA
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MDES UN3000	THEORY AND CULTURE
-------------	--------------------

Select two years of a language regularly taught in the department, or substitutional courses for students who test out of this requirement with the approval of the director of undergraduate studies

Select 15 points of coursework, which may include up to six points from other departments, selected in consultation with the director of undergraduate studies

### The MESAAS Major and its ‘tracks’

Students majoring in MESAAS are studying the languages, and central cultural and political aspects of the societies of the Middle East, South Asia, and Africa, in past and present. This can be done either with a focus on one of these three regions, i.e. the ‘African Studies’, the ‘South Asian Studies’, or the ‘Middle Eastern Studies’ track, or a comparative perspective on them, the ‘combined track’.

The coursework for each of those ‘tracks’ is composed of the same five elements: 1. an approved Introductory course; 2. a seminar on texts from the region; 3. ‘Theory and Culture’; 4. five approved elective courses; 5. the regional language requirement.

Note that some MESAAS courses are already comparative by design and connect more than one region: for example, Societies and Cultures Across the Indian Ocean, or Postcolonial Thought, or courses on Persianate culture that include North India, or Middle East courses that include North Africa. These may satisfy requirements for more than one track, subject to approval by the Director of Undergraduate Studies (DUS).

#### African Studies

1. MDES UN3130 Major Debates in the Study of Africa or another approved introductory lecture course.
2. CC1020 African Civilization
3. MDES UN3000 Theory and Culture
4. Five additional courses on Africa, such as: South African Literature and Culture: Apartheid and After; East Africa and the Swahili Coast; or Pan Africanism (see the Courses page for more options). You may include up to two courses from other departments, in fields such as African history, politics, and philosophy, the anthropology of Africa, and African art, subject to the approval of the Director of Undergraduate Studies. For a listing of courses in other departments, see [here](#).

5. Language: A minimum of two years of course work in Swahili, Wolof, Arabic, Pulaar, or another African language. See the MESAAS language programs [here](#). Those already fluent in an African language may substitute other courses—see [FAQ](#). Not required for the concentration.

#### Middle Eastern Studies

1. MDES UN1003 Premodern Islamic Worlds or another approved introductory lecture course.
2. Asian Humanities UN1399 Major Texts: Middle East/India
3. MDES UN3000 Theory and Culture
4. Five additional courses on the Middle East, such as: Arabic Self-Narratives; Central Questions in Islamic Law, Palestinian-Israeli Politics and Society, or Epics and Empires (see the Courses page for more options). You may include up to two courses from other departments, in fields such as Middle Eastern history, politics, and anthropology, or Islamic art, subject to the approval of the Director of Undergraduate Studies. Find a list of Middle East courses in other departments [here](#).
5. Language: A minimum of two years of coursework in Arabic, Hebrew, Persian, Turkish, or Armenian. See the MESAAS language programs [here](#). Those already fluent in a Middle Eastern language may substitute other courses—see [FAQ](#). Not required for the concentration.

#### South Asian Studies

1. MDES UN2357 Indian Civilization or another approved introductory lecture course.
2. Asian Humanities UN3399 Major Texts: Middle East/India
3. MDES UN3000 Theory and Culture
4. Five additional courses on South Asia, such as: Mughal India; Gandhi and his Interlocutors; or Cinemas of India(see the Courses page for more options). You may include up to six points of course work from other departments, in fields such as South Asian history, politics, and anthropology, or Indian art, subject to the approval of the Director of Undergraduate Studies. Find a list of South Asia courses in other departments [here](#).
5. Language: A minimum of two years of course work in Hindi/Urdu, Sanskrit, Persian, or other South Asian languages. See the MESAAS language programs [here](#). Those already fluent in a South Asian language may substitute other courses—see [FAQ](#). Not required for the concentration.

#### Combined

There is also a combined option. For this, you may satisfy the five requirements by choosing courses from any of the three tracks.

1. An approved introductory lecture course.
2. Asian Humanities UN1399 Major Texts: Middle East/India – OR: CC1020 African Civilization
3. MDES UN3000 Theory and Culture

4. Five additional courses, fitting one's course of study, to be approved by DUS
5. Language: A minimum of two years of course work in any of the regional MESAAS languages, to be approved by the DUS.

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## CONCENTRATION IN MIDDLE EASTERN, SOUTH ASIAN, AND AFRICAN STUDIES

The requirements are identical with those for the major, except that there is no departmental language requirement. Fifteen points in department courses, selected with the approval of the director of undergraduate studies. These may not include elementary or intermediate language courses. Not more than two courses out of the general 15 points may be devoted to language study.

## MODERN GREEK STUDIES\*

**\*Modern Greek Studies is offered exclusively as a concentration.**

## THE DEPARTMENT OF CLASSICS

Department website: <https://classics.columbia.edu/>

Office location: 617 Hamilton Hall

Office contact: 212-854-3902, [classics@columbia.edu](mailto:classics@columbia.edu)  
([videogameugrad@columbia.edu](mailto:videogameugrad@columbia.edu))

Director of Undergraduate Studies: Professor Nikolas Kakkoufa, [Nk2776@columbia.edu](mailto:Nk2776@columbia.edu)

Department Administrator (DAAF): Jared Stickley, [js5074@columbia.edu](mailto:js5074@columbia.edu)

## THE STUDY OF CLASSICS

Classics is the study of the civilizations of ancient Greece and Rome (c. 900 BCE to 500 CE): their languages, literature, history, philosophy, art, and ways of life. The Department of Classics offers a wide variety of courses, geared at students with different interests and at all levels of preparation. These include courses on ancient civilization in all its diversity, classes on ancient literature in translation, and numerous courses in ancient Greek and Latin, from elementary language classes to advanced literature courses. We also offer courses on ancient Egypt as well as the Near East, Medieval Latin, and Modern Greek.

## STUDENT ADVISING

### Consulting Advisers

Director of Undergraduate Studies: Professor Nikolas Kakkoufa, [Nk2776@columbia.edu](mailto:Nk2776@columbia.edu)

Students should consult with the DUS who will direct them to the appropriate faculty advisor for their research interest area.

### Enrolling in Classes

Students starting in the Major should start with the language placement exam to determine the appropriate language level for their prior knowledge. Exams are administered in late August by the Department of Classics. Students who cannot take the exam should contact the Director of Undergraduate Studies to make arrangements.

For those students who are starting the major without prior knowledge of the ancient languages please start at the beginning of the sequence (1000 level) in one of the ancient languages and speak to the Director of Undergraduate Studies to determine your best course of study.

### Preparing for Graduate Study

<https://classics.columbia.edu/preparation-for-graduate-study>

Students who are considering graduate work in Classics should be aware that because our Classics major is not a pre-professional degree, simply fulfilling the normal major requirements will not guarantee admission to a graduate program. By far the most important element in preparation for graduate school admission is a good command of both the Latin and the Greek languages, so students who wish to go to graduate school should attempt to reach the advanced level in both languages. The two courses at the intermediate level required in the secondary language for the Classics major are not enough for admission to most graduate programs, and the language requirements of both Classical Studies and Ancient Studies are well below the level normally necessary for graduate school admission. The importance of languages holds not only for students wishing to study ancient literature, but also for those interested primarily in other aspects of the ancient world (history, art, philosophy, religion, etc.), because it is not possible to pursue advanced research successfully unless one can make use of the primary sources. Students who have not done the requisite amount of language work and wish to go to graduate school can enroll in a post-baccalaureate program (either at Columbia or at another institution) to do one or two years of intensive language work before starting graduate school.

While knowledge of Latin and Greek is the most important factor in graduate school admission, it is by no means the only one. Students considering graduate work are also advised to write a senior thesis (and not to substitute the

thesis for any of the other advanced courses). If possible, it is a good idea to use some of your summers (especially the one between junior and senior year) on a relevant activity such as archaeological fieldwork experience, travel and/or study in Greece or Italy, learning French or German, improving your Latin or Greek, or working as a research assistant for a Classicist. It is also useful to get high scores on the GRE test, and these are best achieved by obtaining and studying information on the types of questions asked on the test and taking practice tests.

The department does offer a combined BA/MA program in Classics allowing them to complete the MA in Classics within one year of receiving their BA.

The array of graduate degrees on offer in the US and abroad can be bewildering—including master's and doctoral programs in Classics and a variety of related subjects—and the character and quality of graduate programs differs widely. It is therefore important to gather information and seek advice.

If you are considering graduate work, you should discuss your plans with the Director of Undergraduate Studies and other faculty members no later than the beginning of the fall semester before you hope to apply (i.e., typically the fall of your senior year).

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The department grants 3 credits for a score of 5 on the Latin AP exam, which also satisfies the foreign language requirement, upon successful completion (with a grade of B or higher) of a Latin class at the 3000-level or higher.

### Barnard College Courses

The Department of Classics at Columbia and the Department of Classics and Ancient Studies at Barnard College work closely together. Students may take courses at Barnard to count towards the Major or Minor. Students at Barnard should speak to their advisor at Barnard regarding Columbia courses as the departments are distinct and the requirements for their respective majors are different.

### Transfer Courses

Students transferring to Columbia should contact the Director of Undergraduate Studies to discuss equivalencies and what level of courses they wish to take.

### Study Abroad Courses

Seeing the ancient sites and monuments is an important part of the study of antiquity, and there are a number of ways to acquire some familiarity with the physical remains of Greek and Roman civilization. [The Intercollegiate Center for Classical Studies in Rome](#) offers in each term an excellent

one-semester program, usually taken in the junior year, and the [College Year in Athens](#) offers a wide variety of courses ranging from language and literature to history, art, and archaeology. During the summer there are more options, including the outstanding [Summer Sessions of the American School for Classical Studies in Athens](#). A listing of fieldwork opportunities is published annually by the Archaeological Institute of America.

## Summer Courses

Courses are offered over the summer by the department providing opportunities to study the ancient languages over the summer.

Courses are also offered in Classical Civilization including Worlds of Alexander and Classical Mythology.

## CORE CURRICULUM CONNECTIONS

Faulty and Graduate Instructors from the Department of Classics Teach in the Core, usually Literature Humanities and Contemporary Civilization.

Some Classics courses can be used to count toward the Global Core requirement as noted in the course information.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

Students should consult with the Director of Undergraduate Studies, Professor Nikolas Kakkoufa at [nk2776@columbia.edu](mailto:nk2776@columbia.edu). Students can register for Directed readings with a faculty member.

### Senior Thesis Coursework and Requirements

Students are required to take the Major Seminar UN3996 as part of the program. The course focuses on the preparation for the Senior Thesis and methods in the field of Classics. Currently students have the option to participate in a trip abroad to sites in the ancient world.

### Undergraduate Research Outside of Courses

Students are encouraged to participate in the [Ancient Play](#) put on yearly by the Barnard Columbia Ancient Drama Group.

The Department is able to support a limited number of students to study ancient languages over the summer through the Comager Fund and the Undergraduate Latin fund. Interested students should contact the Director of Undergraduate Studies.

Undergraduate students can apply to the SNFPHI Summer Research Internship in Public Humanities and Hellenic

Studies. This six week internship invites undergraduate students to explore public humanities, gain hands-on experience with its objectives, methods, and outcomes, and pursue a group project that connects research on Greece with a broad public audience. The internship is structured around: (1) a seminar in Hellenic Studies in which students explore aspects of modern Greek history and culture relevant to their internship research, (2) a workshop in which students are trained in the methods and tools of public-facing research, and (3) a group project in which students work closely with Columbia faculty and public humanities partners in Greece.

Columbia runs its own archeological summer program at Hadrian's Villa in Tivoli. Contact [Professor Francesco de Angelis](#).

Students wanting Columbia or Barnard credit for work done abroad should discuss their plans with the director of undergraduate studies at an early date to enable them to incorporate experience abroad most practically into their programs here.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Departmental Honors are awarded for overall outstanding performance in the Classics.

### Academic Prizes

The department offers two prize competitions yearly ([Earle](#) and [Romaine](#)) in sight translation of Greek and Latin. These prizes are awarded on the basis of examinations given each spring.

Two prizes are given to graduating Columbia College seniors:

- [The Caverly Prize](#) is awarded annually for outstanding performance by a graduating Columbia College major.
- [The Stadler Prize](#) is awarded annually to a graduating senior of Columbia College who is judged by the faculty to have demonstrated academic excellence through course work and the writing of a senior essay on some aspect of the history or culture of the classical world.

## OTHER IMPORTANT INFORMATION

Students interested in majoring in Classics should reach out to the Department early in their academic career. Students should contact the Director of Undergraduate Studies with any questions.

Students participating in dual degree programs should contact the Director of Undergraduate Studies.

## PROGRAM IN HELLENIC STUDIES

Department website: [hellenic.columbia.edu](http://hellenic.columbia.edu)

Office location: 618 Hamilton Hall

Office contact: 212-851-0297, [hellenic@columbia.edu](mailto:hellenic@columbia.edu)  
([videogameugrad@columbia.edu](mailto:videogameugrad@columbia.edu))

Director of Undergraduate Studies: Prof. Nikolas Kakkoufa; 212-854-3902; [nk2776@columbia.edu](mailto:nk2776@columbia.edu)

Undergraduate Administrator: Eleni Gizas; 212-851-0297; [eag2191@columbia.edu](mailto:eag2191@columbia.edu)

## THE STUDY OF MODERN GREEK

The Program offers students the opportunity to study Greece through a modern lens and prepares them for professional work or further academic study in the humanities and social sciences, international studies, fine arts or, more recently, more interdepartmental endeavors. At the heart of the curriculum is a series of courses that investigate the relation between language and culture in the Greek-speaking world (including the diaspora) throughout its modern history. The aim has been to build a strong linguistic base on which to construct a greater knowledge of Modern Greek literary, political, social, and cultural currents and attitudes, and also to offer students a theoretical framework for analyzing cultural differences more generally. Since then, Balkan and Mediterranean Studies, but also Classical Reception Studies outside the strict Classics world, have become part of the Hellenic Studies curriculum, especially insofar as they contribute to Global Core, Global Humanities, and interdisciplinary initiatives.

The Core Faculty of the PHS are Dimitris Antoniou, Chrysanthi Filippardos, Stathis Gourgouris, Nikolas P. Kakkoufa, Paraskevi Martzavou, and Karen Van Dyck. A number of affiliated faculty (but also the HLS faculty that is housed in Classics – Gourgouris, Van Dyck, Kakkoufa) teach and conduct their research in relation with other departments, institutes, and initiatives – notably, the Institute for Comparative Literature and Society (ICLS), the Institute for the Study of Sexuality and Gender (ISSG), the Institute for the Study of Human Rights, the Harriman Institute, and the Stavros Niarchos Foundation Public Humanities Initiative (SNFPHI). Its affiliated faculty members include, among others, John Ma in Classics, Mark Mazower in History, Ioannis Mylonopoulos in Art History and Archaeology, Neni Panourgia in the Justice in Education Program, Elsa Stamatopoulou in Human Rights, Nadia Urbinati in Political Science, and Konstantina Zanou in Italian.

The PHS organizes and co-sponsors the University Seminar in Modern Greek, a Lecture Series with the Greek Consulate



in New York and a number of Hellenic Studies Workshops, Film Screenings, and occasional colloquia that provide a forum of discussion of research in progress on all aspects of Greek Civilization of which our students frequently take advantage. It also maintains a strong collaboration with the Stavros Niarchos Foundation Public Humanities Initiative and the newly established Columbia Global Center in Athens.

## **STUDENT ADVISING**

### **Consulting Advisers**

The Director of Undergraduate Studies (DUS) of the Program in Hellenic Studies in the Department of Classics is responsible for approving courses, overseeing enrollment, advising prospective and current minors, and certifying minors for graduation both in the Minor in Modern Greek Language, Literature, and Culture and the Minor in Hellenic Studies. Students should consult with the Director of Undergraduate Studies, Prof. Nikolas P. Kakkoufa at [nk2776@columbia.edu](mailto:nk2776@columbia.edu)

### **Enrolling in Classes**

Students are encouraged to consult with the Director of Undergraduate Studies to review course options and requirements.

### **Preparing for Graduate Study**

The Program in Hellenic Studies does not offer a graduate path of study but it has prepared students for further study in a number of disciplines with a focus on Modern Greece.

## **COURSEWORK TAKEN OUTSIDE OF COLUMBIA**

### **Advanced Placement**

The Program in Hellenic Studies offers a language placement test the week before the first day of classes in the fall. The test consists of both written and oral parts. Students who wish to schedule the test before the start of the fall semester, or to take a Modern Greek placement test at any other time in the year, or who have particular questions about placing, should contact the Director of Undergraduate Studies.

### **Barnard College Courses**

The Program in Hellenic Studies offers a Minor in Modern Greek at Barnard College. The Minor requires five courses beyond the Elementary Level. The Minor in Modern Greek is administered through the Department of Classics and Ancient Studies at Barnard College. Students wishing to minor in Modern Greek should consult with the Director of Undergraduate Studies.

## **Transfer Courses**

Students transferring to Columbia should contact the Director of Undergraduate Studies to discuss equivalencies and what level of courses they wish to take.

## **Study Abroad Courses**

Students may wish to enroll in the College Year in Athens Program for a semester-long or summer session. The College Year in Athens offers a wide variety of courses ranging from language and literature to history, art, and archaeology. Students wanting credit for work done abroad should discuss their plans with the Director of Undergraduate Studies at an early date to enable them to incorporate experience abroad most practically into their programs here.

## **Summer Courses**

Students can enroll in the Travel Seminar, “Mediterranean Humanities in Athens”, organized in partnership with Columbia Global, the Aikaterini Laskaridis Foundation, and the Center for Undergraduate Global Engagement. Students participating in this seminar take Athens, Greece, as a vantage point to explore the multiple ways this body of water has been imagined by the people who lived or traveled across its shores. In this one-week seminar, students immerse themselves in the history and culture of Athens and its environs through a combination of lectures, guided museum visits, educational walks, field trips, and hands-on workshops.

## **CORE CURRICULUM CONNECTIONS**

Modern Greek language courses count towards the Core requirements. The following classes count towards the Global Core Requirement:

GRKM UN3935 Hellenism and the Topographical Imagination

CLGM GU4600 Multilingual Worlds: Translation, Gender and the Greek Diaspora

CSGM UN3567 Thessaloniki Down the Ages

CLGM UN3920 The World Responds to the Greeks: Modernity, Postcoloniality, Globality

CLGM UN3110 The Ottoman Past in the Greek Present

## **UNDERGRADUATE RESEARCH AND SENIOR THESIS**

### **Undergraduate Research in Courses**

Students should consult with the Director of Undergraduate Studies, Prof. Nikolas P. Kakkoufa at [nk2776@columbia.edu](mailto:nk2776@columbia.edu). Students can register for Directed



readings (3997), a Senior Research Seminar (3998) or Supervised Independent Research (4460).

Senior Thesis Coursework and Requirements [drop-down]  
Though a Senior Thesis is not required for graduation it enables a student to be considered for departmental honors. It is advisable to begin planning for the thesis during the junior year. Interested students should identify a potential faculty advisor and discuss their plans with the DUS.

## Undergraduate Research Outside of Courses

Undergraduate students can apply to the SNFPHI Summer Research Internship in Public Humanities and Hellenic Studies. This six week internship invites undergraduate students to explore public humanities, gain hands-on experience with its objectives, methods, and outcomes, and pursue a group project that connects research on Greece with a broad public audience. The internship is structured around: (1) a seminar in Hellenic Studies in which students explore aspects of modern Greek history and culture relevant to their internship research, (2) a workshop in which students are trained in the methods and tools of public-facing research, and (3) a group project in which students work closely with Columbia faculty and public humanities partners in Greece.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Departmental Honors are awarded for overall outstanding performance.

## PROFESSORS

Kathy Eden  
Carmela V. Franklin  
Stathis Gourgouris  
John Ma (Chair)  
Kristina Milnor (Barnard, Chair)  
Seth R. Schwartz  
Deborah T. Steiner  
Karen Van Dyck  
Katharina Volk  
Gareth D. Williams  
Nancy Worman (Barnard)

## ASSOCIATE PROFESSORS

Marcus Folch  
Joseph Howley  
Elizabeth Irwin  
Ellen Morris (Barnard)

## SENIOR LECTURER

Elizabeth Scharffenberger

## LECTURERS

Dimitrios Antoniou  
Lien Van Geel  
Hanna Golab  
Nikolas Kakkoufa  
Darcy Krasne

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN CLASSICS

### Program Planning for all Students

The department offers a major in classics and a major track in classical studies. The major in classics involves the intensive study of both Greek and Latin, as well as their cultural matrix; the track in classical studies offers a more interdisciplinary approach. The major in classics is recommended for students planning to continue the study of classics in graduate school. The department also participates in the interdepartmental ancient studies program and offers a concentration in classics; these are all described below.

The major in classics and the track in classical studies are designed in part to build on the experience of the ancient world that undergraduates have acquired at Columbia in the Core Curriculum (especially in Literature Humanities). The major in classics is structured on the principle of gradual and closely monitored linguistic progress from the elementary (1100-level) to the advanced (3000- and 4000-levels) and ultimately to the literature survey courses (GU4105-GU4106) in Greek and/or Latin.

Those majors intending to embark on graduate study in classics are especially encouraged to undertake, in their senior year, an independent research project (UN3998). This option is designed to allow students to personalize their experience in the major by conducting advanced study in a specialized area under the guidance of the specializing faculty member of their choice.

UN3998 is required in the classical studies track. Otherwise, students in classical studies are not required to take advanced courses beyond UN3996 The Major Seminar, but are expected to follow a coherent plan of study by taking a sequence of cognate courses in different but related departments (e.g., art history and archaeology, history, etc.).

### Course Numbering Structure

In both Greek and Latin prerequisites are the course with the number before in the sequence. Students can test out of the prerequisite with a placement test or through the Director of Undergraduate Studies.

In both languages the sequence is as follows:

1101: Elementary I

1102: Elementary II

1121: Intensive Elementary

2101: Intermediate I

2102: Intermediate II

For 2101 Either 1102 or 1121 is required as a prerequisite or a placement test.

The course numbers below are used for both Greek and Latin, except as noted. Please consult the Columbia and Barnard catalogs for full descriptions of all courses.

1101-2: Introductory language course in TWO semesters. This is the normal course taken by those beginning a language not previously studied; it covers all the basic grammar and gives some practice reading easy texts.

1121: This one-semester course is the equivalent of both 1101 and 1102; it covers all the basic grammar in one semester and enables the participants to take courses at the 2100 level the following semester. This is an intensive course, so you should be prepared to make a substantial time commitment.

2101-2: This sequence provides intermediate language training in both prose and poetry. The completion of 2102 satisfies the language requirement.

3012 (Latin only): This is the fifth-semester Latin course and the beginning of the Latin literature sequence. It is highly recommended for incoming first-year students who have had enough Latin to place out of 2101-2 or for those who have completed the intermediate sequence here.

3013 (Latin only): This new course is designed as a sequel or alternative to 3012 and aims to sharpen translation skills by concentrating on classical Latin prose.

3309, 3310, 4009, 4010: These advanced literature courses are offered annually with changes in subject matter so that students will have a chance to read as many representative authors as possible. Courses at the 4000 level are not necessarily more difficult than those at the 3000 level when taken by undergraduates; the significance of the designation is that graduate students as well as undergraduates may take 4000 level courses, but in many cases undergraduates and graduates will not be given the same workload in these courses. Students who are in doubt about the level of a specific class should consult the instructor.

3033, 4152 (Latin only): These courses constitute the sequence in medieval Latin; in most years both will be offered.

3996: The Major Seminar is intended for senior majors in Classics, Classical Studies, and Ancient Studies but is

also open to juniors. The course considers a different topic each year, analyzing it across time periods, genres, and both languages. It focuses on honing skills that are useful for working on the senior thesis, such as how to frame a discussion topic, how to analyze a text philologically and thematically, and how to develop a bibliography. The course also provides upper-level students in Classics, Classical Studies, and Ancient Studies with an opportunity to get to know each other in a congenial and interactive environment.

4105-6: The literature surveys are designed to give advanced Classics undergraduates and entering graduate students a grasp of the broader picture of Greek or Latin literature, as opposed to the more focused topics offered in other advanced courses.

5139: This course focuses on enabling students to write, as well as read, Greek and Latin. It consists largely of an intensive review of grammar and syntax at an advanced level, with the translation of sentences or short paragraphs into the ancient languages. Note: This is technically a graduate course, but undergraduates are welcome to enroll with the instructor's permission. 5139 replaces the old 4139; the content of the course remains the same.

## CLASSICAL CIVILIZATION AND LITERATURE IN TRANSLATION

These courses are designed for both majors and non-majors and are ideal for students with no prior background in the ancient world, though they may also be of interest to more advanced students. Some, such as Classical Myth (3132), are normally offered every year; others are offered in rotation or once only.

## Guidance for First-Year Students

The director of undergraduate studies is responsible for overseeing the path of study followed by each student in classics or classical studies. Through close interaction with the director of undergraduate studies, as well as with other faculty members where appropriate, each major is strongly encouraged to debate the strengths and weaknesses of his or her own trajectory of study even as the requirements for the major are being completed.

Students should contact the director of undergraduate studies with any questions about the classics majors and course offerings. The director of undergraduate studies can provide students with a worksheet to help in planning their progress toward major requirements.

## Guidance for Transfer Students

Students should contact the director of undergraduate studies with any questions about the classics majors and course offerings. The director of undergraduate studies can

provide students with a worksheet to help in planning their progress toward major requirements.

## UNDERGRADUATE PROGRAMS OF STUDY: CLASSICS

### Required Coursework for all Programs

The major is offered with two tracks, Classics and Classical Studies. The former, which is recommended for students considering graduate work in Classics, concentrates heavily on the ancient languages and literature; the latter can be earned with only one of the ancient languages and includes more courses on other aspects of the ancient world. The Classics department also participates in the interdepartmental Ancient Studies major, which is designed for students whose interests encompass the ancient Mediterranean as a whole rather than the Greco-Roman world in particular. The Classics Concentration/Minor is earned in either Latin or Greek; there is also a Greek/Latin Minor for students of the School of Engineering and Applied Science.

### Major in Classics

11 courses, minimum 34 credits

In the primary language:

- Four courses at or above the 2100-level
- Major seminar 3996
- Two courses from the Advanced Menu of four (4105, 4106, 5139, 3998; any others may count toward the four upper level requirement)

In the secondary language:

- Two courses at or above the 2100 level

Two ancient culture courses, including:

- One in the culture of the primary language
- One in any aspect of ancient history or culture (HIST, AHIS, PHIL, CLLT, CLCV...)

A student must write a thesis (UN3998) to be considered for Departmental Honors and prizes.

### Major in Classical Studies

11 courses, minimum 35 credits

- Five courses, at or above 1102, in either or both Latin and Greek
- Major Seminar 3996

- Four classes in ancient history, art, philosophy, religion, civilization
- Senior thesis 3998

### Major in Ancient Studies

### The Minors in the Department of Classics

There are five tracks towards obtaining a **Minor in Classics**.

- The track in Classics is designed for students who wish to study both Greek and Latin language, literature, and culture. This track envisages advanced competence in one ancient language and elementary knowledge of the other.
- The tracks in Greek or Latin allow students to develop significant knowledge of the language, literature, and culture of either ancient Greece or Rome. These tracks envisage advanced competence in one ancient language, Greek or Latin, and sustained study of one ancient civilization.
- The track in Classical and Ancient Civilizations allows students to receive recognition for coursework in the study of ancient societies while not mandating the study of an ancient language. Language work, however, is encouraged and, at and above the intermediate level, may be counted toward this track.
- The track in Classical Reception and the Classical Tradition allows students to focus on the cultural legacy of ancient Greek and Roman societies. Although not required, language work is encouraged and, at and above the intermediate level, may be counted toward this track.

### Minor tracks in detail

**I. CLASSICS.** 5 courses. A minimum of 15 credits.

(Students without prior knowledge of Greek and Latin may be required to take as many as 22 credits in the primary language (elementary 1102 & 1102, intermediate 2101 & 2102, and advanced 3009 & 3010), 8 credits in the secondary language (elementary 1101 & 1102), and 6 credits for the Cultural and Historical Breadth requirement.)

• **Primary Language:** Three courses in the primary language at or above the 2100-level.

• **Secondary Language:** One course in the secondary language at or above the 1102-level.

• **Cultural and Historical Breadth:** One course on any aspect of any aspect of the culture (including archaeology, art history, history, literature, philosophy, and post-Classical reception) of the primary language.

**II & III. GREEK OR LATIN** A minimum of 15 credits.

(Students without knowledge of Greek or Latin may be required to take as many as 19 credits in one language (elementary 1102 & 1102, intermediate 2101 & 2102, and

advanced 3009), as well as 6 credits for the Cultural and Historical Concentration.

• **Language Concentration:** Three courses in Greek or Latin at or above the 2100-level; The minor—Greek or Latin—is determined by the language chosen for the Language Core.

• **Cultural and Historical Concentration:** Two courses on any aspect of any aspect of the literature, culture, and/or history (including archaeology, art history, history, literature, philosophy, and post-Classical reception) of the student's chosen language. Language courses at or above the 3000-level may count toward this requirement; it is thus possible for students to begin studying an ancient language at the elementary level in the freshman year and to complete the requirements for the minor by the senior year by taking coursework in that language.

#### IV. CLASSICAL AND ANCIENT CIVILIZATIONS

A minimum of 15 credit points. (Language study is not required for this track. However, for students who wish to use language courses to count toward minor requirements, this track may take more coursework and credit points; how many will depend on the student's familiarity with the language.)

• **Fundamental Breadth:** Five courses on any aspect of the ancient Greco-Roman Mediterranean and neighboring societies.

• **Advanced Studies:** Three of the five courses above must be taken at the advanced (usually UN3000 or above) level. One Greek or Latin course at or above the 2102-level may count toward the Advanced Studies requirement.

**V. CLASSICAL RECEPTION AND THE CLASSICAL TRADITION.** A minimum of 15 credit points. (Language study is not required for this track. However, for students who wish to use language courses to count toward minor requirements, this track may take more coursework and credit points; how many will depend on the student's familiarity with the language.)

• **Foundational Breadth 1—Ancient Civilizations:** Two courses on any aspect of the ancient Greco-Roman Mediterranean and neighboring societies.

• **Foundational Breadth 2—Classical Reception and the Classical Tradition:** Three courses on classical reception, the classical tradition, and/or comparative approaches to the study of the ancient world. Coursework for this requirement may focus on Medieval and Renaissance Studies, Hellenic Studies, English, Comparative Literature, and related disciplines.

• **Advanced Studies:** Three of the five courses taken for this minor must be taken at the advanced level (UN3000 or above). One Greek or Latin course at or above the 2102 level may count toward the Advanced Studies requirement.

• No fewer than four courses counted toward this track must be taught by Columbia and Barnard Classics and Ancient Studies faculty.

Please visit the following website for details -- [Minor in Classics — Columbia University Department of Classics](#)

For further information, please contact the Director of Undergraduate Studies.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration (Columbia College and General Studies) in Classics

7 courses, minimum 21 credits

Six courses in one classical language (Latin or Greek), of which

- Five courses above the 1100 level, three of which must be 3/4000 level
- One from the following three advanced options: 4105, 4106, 5139

One course in ancient history or classical civilization

### PROGRAM IN HELLENIC STUDIES

Department website: [hellenic.columbia.edu](http://hellenic.columbia.edu)

Office location: 618 Hamilton Hall

Office contact: 212-851-0297, [hellenic@columbia.edu](mailto:hellenic@columbia.edu) ([videogameugrad@columbia.edu](mailto:videogameugrad@columbia.edu))

Director of Undergraduate Studies: Prof. Nikolas Kakkoufa; 212-854-3902; [nk2776@columbia.edu](mailto:nk2776@columbia.edu)

Undergraduate Administrator: Eleni Gizas, [eag2191@columbia.edu](mailto:eag2191@columbia.edu)

Guidance for Undergraduate Students

### Program Planning for all Students

The Program in Hellenic Studies offers 1) a Minor in Modern Greek Language, Literature, and Culture, 2) a Minor in Hellenic Studies, 3) a Special Concentration in Modern Greek (for students enrolled prior to Fall 2024), and 4) a Minor in Modern Greek at Barnard College.

The Minor in Modern Greek Language, Literature, and Culture is designed to offer students an advanced understanding of contemporary Greece with a specialization in the field of Modern Greek Language, Literature, and



Culture that is representative of the intellectual breadth of our core Faculty.

The Minor in Hellenic Studies functions as a cluster of courses that will introduce students to the diachronic study of Greece and could complement the majors in Classics, Classical Studies, Art History and Archaeology, History, etc.

The Special Concentration is structured around course offerings in Modern Greek Language & Culture Courses and in Modern Greek Studies Interdepartmental courses.

Students should [visit the website](#) for more information or contact the Director of Undergraduate Studies, Prof. Nikolas P. Kakkoufa.

## Course Numbering Structure

1101: Elementary I

1102: Elementary II

2101: Intermediate I

2102: Intermediate II

3000+: Other courses

3997: Directed readings

3998: Senior Research Seminar

4460: Supervised Independent Research

GRKM: Greek Modern

CLGM: Comparative Literature Greek Modern

CSGM: Classics Greek Modern

HLNS: Hellenic Studies

## Guidance for First-Year Students

The Director of Undergraduate Studies is responsible for overseeing the path of study followed by each student. Students should contact the DUS with any questions about the minors, course offerings, and language placement exam.

## Guidance for Transfer Students

Transfer students should contact the Director of Undergraduate Studies, Prof. Nikolas P. Kakkoufa at [nk2776@columbia.edu](mailto:nk2776@columbia.edu).

## UNDERGRADUATE PROGRAMS OF STUDY

### Minor in Modern Greek Language, Literature, and Culture

The Minor in Modern Greek Language, Literature, and Culture (MGLLC) consists of 5 (15-18 credits) courses on top of the successful completion of the Elementary Modern Greek Sequence (8 credits). Students may double count the Intermediate Sequence both for the Language Requirement and for the MGLLC. The focus of the minor is the study of the language, literature, and Culture of Modern Greece. The minor is open to Columbia College and General Studies students.

The general learning goals of this minor are 1) to provide the training necessary to speak, comprehend, read and write Modern Greek, which would allow students to participate not only in basic everyday communications but also to academically interact with primary material in Modern Greek, 2) to offer an awareness of the diverse populations and cultures in which Modern Greek is spoken (Greece, Cyprus, the Diasporas) and of the sociolinguistic aspect of their language/dialects; a deeper understanding of what language is and does, 3) to function as an introduction to the professional abilities and skills needed to undertake graduate training as scholars in the humanities, translators, and interpreters, 4) to develop proficiency in the literary and cultural accomplishments of Modern Greek, 5) to acquire and hone skills in the methodologies of close reading of texts and critical thinking, 6) to engage in diverse methods of inquiry about texts, visual material, and cultural material more broadly, 7) to raise Global awareness and respect for other cultures, and 8) to develop abilities in articulation of ideas and precision in oral/written presentation. These goals are also enriched by the specific learning goals and methods that our faculty set in their individual syllabi.

#### • PREREQUISITE

- Students should have satisfied the Elementary Sequence (GRKM1101, GRKM1102) or demonstrated equal proficiency through a placement test administered by the Program in Hellenic Studies

#### • DECLARING

- There is no formal application to the Minor. Interested students should contact the Program's Director of Undergraduate Studies, Prof. Nikolas P. Kakkoufa.

#### • REQUIREMENTS

- Five (15-18 credits) courses on top of the successful completion of the Elementary Modern Greek Sequence (8 credits). Any appropriate course taught



in the area of Modern Greek Studies in departments other than Classics must be approved by the DUS. Typically, no more than two courses will be allowed to double-count with a student's major or the college's Core Requirements.

- GRKM 2101 Intermediate Modern Greek I
- GRKM 2102 Intermediate Modern Greek II
- Students who place out of the Intermediate Sequence will have to replace those two courses with the lectures and seminars offered and cross listed by the Program in Hellenic Studies. Students are also strongly encouraged but not required to complete GRKM 3003 prior to enrolling in other classes.
- Three additional courses at the 2000 level or above from at least two of the following three categories:
  - Any course listed by the Program in Hellenic Studies (GRKM, CLGM, CSGM).
  - Any course cross-listed by the Program in Hellenic Studies with the code GM (courses that contribute to an understanding of some aspect of Modern Greece within larger analytical concepts).
  - Directed Readings and Independent Study.
- Though a Senior Thesis is not required for graduation it enables a student to be considered for departmental honors. It is advisable to begin planning for the thesis during the junior year. Interested students should identify a potential faculty advisor and discuss their plans with the DUS.

## Minor in Hellenic Studies

The Minor in Hellenic Studies consists of 5 courses (15-20 credits). Although there are no prerequisites, the study of either ancient or modern Greek is highly recommended. To ensure this truly interdisciplinary course of study the required classes are based on selecting classes from the following – broadly conceived – distribution requirements: 1) Period, 2) Discipline, 3) Geography.

The general learning goals of the Minor in Hellenic Studies are: 1) to introduce students to Hellenic studies as a diverse and interdisciplinary field and to interdisciplinary research at Columbia more broadly; 2) to familiarize students not only with Greece as a space at the crossroads of East and West but also with the ways in which different disciplines have considered space across geography and time; 3) to acquire a global perspective on the reception of Hellenic material and to give students vital tools needed to engage in diverse methods of inquiry about texts, visual material, and cultural material more broadly; 4) to offer students first-hand exposure to objects of material and visual culture

through the Hellenic Collection in our Library (which has, for example, the biggest collection of zines outside of Greece) but also the Museums with Hellenic Collections across the city of New York and, hopefully, with the further development of the Global Center in Athens, to research collections and archaeological and historical sites in Greece with study abroad classes; 5) to critically think about and problematize the narratives of nations, traditions, and claims to continuity as it affects today's world through a deep historical and broad geographical study 5) to acquire and hone skills in close reading of texts and critical thinking and to develop abilities in articulation of complex ideas and precision in oral/written presentation. It also aims to enrich the students' undergraduate experience by encouraging them to take part in the diverse activities and programming of the Program in Hellenic Studies and the Stavros Niarchos Initiative for Public Humanities. The minor is open to Columbia College and general Studies students.

### • PREREQUISITE

- There are no prerequisites for the Hellenic Studies Minor. The study of either ancient or modern Greek is strongly encouraged.

### • DECLARING

- There is no formal application to the Minor. Interested students should contact the Program's Director of Undergraduate Studies, Dr. Nikolas P. Kakkoufa.

### • REQUIREMENTS

- 5 courses (15-20 credits) at the 2000 level or above from at least two of the following three categories:
  - Any course listed by the Program in Hellenic Studies (GRKM, CLGM, CSGM).
  - Any course cross-listed by the Program in Hellenic Studies with the code HLNS (courses that contribute to an understanding of some aspect of Hellenic studies in different periods, different disciplinary focus, different geographical contexts).
  - Directed Readings and Independent Study
- Students will need to complete courses in all three distribution areas: 1) Periods (e.g. Ancient, etc.), 2) Disciplines (Comparative Literature, Queer Studies, Anthropology, Translation, History, Archaeology, etc.) 3) Geography (Mediterranean Studies, etc.) .
- Any appropriate course taught in the area of Hellenic Studies in departments other than Classics, must be approved by the DUS. Typically, no more than

two courses will be allowed to double-count with a student's major or the college's Core Requirements.

- Though a Senior Thesis is not required for graduation it enables a student to be considered for departmental honors. It is advisable to begin planning for the thesis during the student's junior year. Interested students should identify a potential faculty advisor and discuss their plans with the DUS.

## **FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR**

### **Special Concentration in Modern Greek**

The minimum credit requirement for the Hellenic Studies Concentration is 21 credits and includes:

1. Modern Greek language and culture courses (Elementary, Intermediate, Advanced, Cultural Dictionary I & II, Readings in Modern Greek; minimum 8 credits). Students will work with the undergraduate advisor to determine their level of the language.
2. Modern Greek Studies interdepartmental courses (CLGM, CSGM, HSGM; minimum 12 credits). The program of study should be planned as early as possible with the Director of Undergraduate Studies. Students meet with the Director of Undergraduate Studies each semester in order to obtain program approval. Opportunities exist for study abroad in Greece, Cyprus and Turkey for the summer or an academic term for credit. Students work closely with the concentration advisor on the selection of the foreign schools and the transfer of credit.

Students may also wish to write a Senior Thesis which will substitute one Modern Greek Studies interdepartmental seminar. While not required for graduation, the thesis enables a student to be considered for departmental honors. It is advisable to begin planning for the thesis during the student's junior year. Interested students should identify a potential faculty advisor.

## **MUSIC**

### **DEPARTMENT OF MUSIC:**

Department Website: <https://music.columbia.edu/>

Office Location: 621 Dodge Hall

Office Phone: 212-854-3825

Contacts:

Director of Undergraduate Studies: Prof. Aaron Fox, 804 Dodge; 212-854-7185; [aaf19@columbia.edu](mailto:aaf19@columbia.edu)

Music Humanities Chair: Prof. Benjamin Steege, 609 Dodge; 212-851-1750; [benjamin.steege@columbia.edu](mailto:benjamin.steege@columbia.edu)

Music Performance Program Director: Magdalena Stern-Baczewska, 618A Dodge; 212-854-2348; [mb3713@columbia.edu](mailto:mb3713@columbia.edu)

## **THE STUDY OF MUSIC**

The music Major, Minor in Music and SEAS Music Minor provide aspiring music scholars and/or musicians with a wide range of ways to think about music (theoretical, historical, cultural, compositional and performance-related) and to concentrate on the aspects of music that most interest them—from popular to world music to computer music. Our faculty engage in cultural studies (i.e. Ethnomusicology) and with current literary theory, connect with faculty of other departments (i.e. English, Philosophy, and Psychology), and are on the cutting edge of technological change. Students who have a passion for music and who have already developed basic skills in areas including performance, music history, composition or ethnography, should consider a major or minor in music.

## **MUSIC MAJOR & MINORS**

The Department of Music at Columbia University and Barnard College currently offers undergraduate courses and programs of study (Major in Music, Minor in Music and SEAS Music Minor) for the four following schools: Columbia College, Barnard College, General Studies and the School of Engineering and Applied Sciences. Starting in the 2024 - 2025 academic year, the Concentration in Music will begin to be phased out.

## **MUSIC PERFORMANCE PROGRAM**

The Music Performance Program (MPP) is a division of the Department of Music which supports music making of the highest caliber, by creating learning and performance opportunities for undergraduate students, regardless of their academic major. While we do not offer degrees in music performance, we provide a high-quality offering to student musicians from across Columbia University that includes a wide array of for-credit Classical, Jazz, Pop/Contemporary and World Music ensembles and lessons in addition to the Columbia University Orchestra. The Minor in Music, new in the 2024 - 2025 academic year, offers a Pathway in Performance.

For information on auditions, registration and other aspects of performance not included below, please contact contact Magdalena Stern-Baczewska, Director of the Music Performance Program or visit [mpp.music.columbia.edu](http://mpp.music.columbia.edu)

Students with questions about the Columbia-Juilliard programs should consult Special Programs in this Bulletin or [mpp.music.columbia.edu/content/columbia-juilliard-program](http://mpp.music.columbia.edu/content/columbia-juilliard-program)

## Lessons

Individual instrument lessons listed under Courses of Instruction are 6 hours per semester and are 1 credit courses.

Voice lessons at Barnard College are 12 hours per semester and are 2 credit courses. There is a \$300 lesson fee per semester for each instrumental lesson course (note that Columbia College, General Studies & SEAS students who receive institutional need based grants from Columbia will receive a credit for the music lesson fees as part of their financial aid package) and \$500 per semester for each Barnard voice lesson course. Auditions are only offered in the fall semester and courses are a one year commitment. Lessons are graded as pass/fail only.

## Ensembles

Participation in the following ensembles is open to all members of the University community. Students who wish to receive course credit may register for 1 point per semester for these courses as listed. Ensembles receive letter grades only.

See Music Performance Program [website](#) for audition and activity information about all of the below.

## MasterClass

Performance Seminar MasterClass (MPP UN1601) is open to classical musicians of any instrument(s) with the highest commitment to performance. Students are admitted via live audition during the first week of classes in the Fall. Each week, two students perform repertoire of their choice for the class and receive feedback from everyone present. The discussions, moderated by the director of the Music Performance Program, Dr. Magdalena Stern-Baczewska, are designed to provide constructive criticism to the performers and to pose questions related to performance from the perspectives of musical interpretation, career management, professional collaboration, and pedagogy.

## Practice Rooms

Please see [Practice Rooms and Policies](#) for the most up to date information.

## DEPARTMENTAL HONORS

For departmental honors, see the Director of Undergraduate Studies during the first week of the first semester of senior year. A formal written proposal is required. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

## PROFESSORS

Marcos Balter  
Susan Boynton

Joseph Dubiel  
Walter Frisch  
Bradford Garton  
Giuseppe Gerbino  
Georg Friedrich Haas  
George Lewis  
Elaine Sisman  
Christopher Washburne

## ASSOCIATE PROFESSORS

Alessandra Ciucci  
Kevin A. Fellezs  
Aaron Fox  
Mariusz Kozak  
Benjamin Steege

## ASSISTANT PROFESSORS

Knar Abrahamyan  
Zosha Di Castri  
Julia Doe  
Ruth Opara

## LECTURERS & SR. LECTURERS

Audrey Amsellem  
Nandini Banerjee  
Seth Cluett  
Scott Douglass  
Gabrielle Ferrari  
Saad Haddad  
Velia Ivanova  
Hannah Kendall  
Cheng Wei Lim  
Anna Meadors  
Jeffrey Milarsky  
Russell O'Rourke  
Magdalena Stern-Baczewska  
Peter Susser  
Lucy Turner  
Thomas Wetmore

## ASSOCIATES IN MUSIC PERFORMANCE

Sarah Adams  
Dmitry Alexeev  
Gail Archer (Barnard)  
Amadi Azikiwe  
Eliot Bailen  
Cyrus S. Beroukhim  
Allen Blustine  
Vicki Bodner  
Paul Bollenback  
Maja Cerar

Vince Cherico  
 Christine Correa  
 Brad Gemeinhardt  
 John David Gibson  
 June Han  
 Patrick Jee  
 Sue Ann Kahn  
 James Kerr  
 Lisa Kim  
 Louis Kosma  
 David Krauss  
 Yumi Kurosawa  
 Ingrid Laubrock  
 Mirna Lekic  
 Victor Lin  
 Lish Lindsey  
 Paul-Martin Maki  
 Ole Mathisen  
 James Moore  
 Ugonna Okegwo  
 Muneko Otani  
 Susan Palma-Nidel  
 Adam Robinson  
 Richard Rood  
 Susan Rotholz  
 Don Sickler  
 Michael Skelly  
 Ian Sullivan  
 Helen Sung  
 Kathleen Tagg  
 Jessica Thompson  
 Mark Timmerman  
 Leo Traversa  
 Reiko Uchida  
 Jeffrey Warschauer  
 James Wilson

## ON LEAVE

George Lewis (2024 - 2025)  
 Peter Susser (Spring '25)

## MUSIC THEORY, EAR-TRAINING & LANGUAGE GUIDELINES FOR MUSIC MAJORS AND MINORS

A program of study should be planned with the Director of Undergraduate Studies (DUS) in the first semester of the sophomore year.

### Music Theory & Ear-Training

All music majors and existing concentrators are required to take the Music Theory sequence through Music Theory IV and the Ear-Training sequence through Ear-Training IV.

These courses are optional for the new Minor in Music. Placement exams are given prior to your initial enrollment in

both the Music Theory sequence and Ear-Training sequence, to determine at what level you will be placed in each. For students who do not place in Music Theory I and/or Ear Training I (or higher) on the placement exam, you must complete these pre-requisite course(s) before you can start the corresponding sequence(s). The pre-reqs do not count towards the points required for the major & concentration:

MUSI UN1002 FUNDAMENTALS OF MUSIC and MUSI UN1312 INTRODUCTORY EAR-TRAINING.

### Language Recommendations

For students who plan to do graduate work in music, studying German, French, Italian and/or Latin is recommended.

## MAJOR IN MUSIC

The major in music requires a minimum of 40 points, including the following courses:

Required to complete up to Music Theory IV;  
 Fundamentals pre-req required if you don't test into Music Theory I or higher:

MUSI UN1002	FUNDAMENTALS OF MUSIC
MUSI UN2318	MUSIC THEORY I
MUSI UN2319	MUSIC THEORY II
MUSI UN3321	MUSIC THEORY III
MUSI UN3322	MUSIC THEORY IV

Required to complete up to Ear-Training IV; Intro Ear-Training pre-req required if you don't test into ET I or higher:

MUSI UN1312	INTRODUCTORY EAR-TRAINING
MUSI UN2314	EAR-TRAINING I
MUSI UN2315	EAR-TRAINING II
MUSI UN3316	EAR-TRAINING III
MUSI UN3317	EAR-TRAINING IV

Required to complete both History courses:

MUSI UN3128	HIST-WEST MUS: MID AGE-BAROQUE
MUSI UN3129	HIST-WEST MUS: CLASSICAL-20TH CENTURY

Required to complete Topics course:

MUSI UN3400	TOPICS IN MUSIC # SOCIETY
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Electives: At least two 3000- or 4000-level electives.  
 The remaining points are to be earned through 1000-level MPP courses, 2000, 3000 or 4000-level courses subject to these constraints:

1. No more than 6 points of 2000-level courses.
2. No more than 4 points of 1000-level MPP courses (list below):

Performance Credit/MPP Courses

MPP UN1401	BASSOON INSTRUCTION
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MPP UN1403	CELLO INSTRUCTION
MPP UN1405	CLARINET INSTRUCTION
MPP UN1407	CLASSICAL SAXOPHONE INSTRUCTION
MPP UN1409	FLUTE INSTRUCTION
MPP UN1411	FRENCH HORN INSTRUCTION
MPP UN1413	GUITAR (BLUEGRASS) INSTRUCTION
MPP UN1414	Guitar (Popular-Contemporary) Instruction
MPP UN1415	GUITAR (CLASSICAL) INSTRUCTION
MPP UN1417	HARP INSTRUCTION
MPP UN1419	OBOE INSTRUCTION
MPP UN1421	ORGAN INSTRUCTION
MPP UN1423	PERCUSSION INSTRUCTION
MPP UN1425	PIANO INSTRUCTION
MPP UN1427	STRING BASS INSTRUCTION
MPP UN1429	TROMBONE INSTRUCTION
MPP UN1431	TRUMPET INSTRUCTION
MPP UN1433	TUBA INSTRUCTION
MPP UN1435	VIOLA INSTRUCTION
MPP UN1437	VIOLIN INSTRUCTION
MPP UN1443	JAZZ BASS INSTRUCTION
MPP UN1445	JAZZ BASS (ELECTRIC) INSTRUCTION
MPP UN1447	JAZZ GUITAR (ELECTRIC) INSTRUCTION
MPP UN1449	JAZZ ORCHESTRATION
MPP UN1451	JAZZ PERCUSSION INSTRUCTION
MPP UN1453	JAZZ PIANO INSTRUCTION
MPP UN1455	JAZZ SAXOPHONE INSTRUCTION
MPP UN1457	JAZZ TROMBONE INSTRUCTION
MPP UN1459	JAZZ TRUMPET INSTRUCTION
MPP UN1461	JAZZ VOICE INSTRUCTION
MPP UN1511	COLLEGIUM MUSICUM
MPP UN1521	UNIVERSITY ORCHESTRA I
MPP UN1531	CHAMBER ENSEMBLE
MPP UN1541	COLUMBIA UNIV JAZZ ENSEMBL
MPP UN1551	WORLD MUSIC ENSEMBLE
MPP UN1601	Performance Seminar MasterClass

## MINOR IN MUSIC (NEW IN 2024)

The new Minor in Music is organized around pathways of personal interest, designed with the guidance of an advisor

in the Department of Music. Any combination of 15 credits from the Music course list will fulfill the minor. Of those 15 credits, up to 6 maximum performance credits, consisting of lessons and/or ensembles, are allowed for any pathway (please note students must audition and be accepted into the Music Performance Program in order to register for lessons and/or ensembles).

Below are recommended pathways that students can use as a guide if they have interest in the areas of Music Studies, Music Production, Jazz, Performance or Composition. The courses listed in these pathways are not required and serve only as suggestions to students with interests in these areas.

All students interested in the Minor in Music should reach out to the Director of Undergraduate Studies, who will refer you to an advisor.

### Pathway: Music Studies

Required to complete one Theory course (determined by placement test):

MUSI UN1002	FUNDAMENTALS OF MUSIC
MUSI UN2318	MUSIC THEORY I
MUSI UN2319	MUSIC THEORY II
MUSI UN3321	MUSIC THEORY III

Required to complete one History course:

MUSI UN3128	HIST-WEST MUS: MID AGE-BAROQUE
MUSI UN3129	HIST-WEST MUS:CLASSICAL-20TH CENTURY

Required to complete Topics course:

MUSI UN3400	TOPICS IN MUSIC # SOCIETY
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Electives: One 1000- or 2000- or 3000- or 4000-level elective.

Electives: One 1000- or 2000- or 3000- or 4000-level elective or three performance points from UN1401 - UN1461 and/or UN1511 - UN1551.

### Pathway: Music Production

Required to complete these three courses:

MUSI UN2205	INTRODUCTION TO DIGITAL MUSIC
MUSI UN2230	History and Practice of Electronic Music
MUSI GU4630	RECORDED SOUND

Required to complete three Ear-Training courses or one Music Theory course (determined by placement test):

MUSI UN1312	INTRODUCTORY EAR-TRAINING
MUSI UN2314	EAR-TRAINING I
MUSI UN2315	EAR-TRAINING II
MUSI UN3316	EAR-TRAINING III
MUSI UN3317	EAR-TRAINING IV
MUSI UN1002	FUNDAMENTALS OF MUSIC
MUSI UN2318	MUSIC THEORY I
MUSI UN2319	MUSIC THEORY II



MUSI UN3321 MUSIC THEORY III  
Electives: One 1000- or 2000- or 3000- or 4000-level elective.

#### Pathway: Jazz

Required to complete these four courses:

MUSI UN2016	JAZZ
MUSI UN2582	JAZZ IMPROVISTN:THRY,HIST,PRA
MUSI GU4500	JAZZ TRANSCRIPTION # ANALYSIS
MUSI GU4505	JAZZ ARRANGING # COMPOSITION

Electives: Three performance points from UN1401 - UN1461 and/or UN1511 - UN1551.

#### Pathway: Performance

Required: Six performance points from UN1401 - UN1461 and/or UN1511 - UN1551.

Required to complete three Ear-Training courses (determined by placement test):

MUSI UN1312	INTRODUCTORY EAR- TRAINING
MUSI UN2314	EAR-TRAINING I
MUSI UN2315	EAR-TRAINING II
MUSI UN3316	EAR-TRAINING III
MUSI UN3317	EAR-TRAINING IV

Required to complete one Theory course (determined by placement test):

MUSI UN1002	FUNDAMENTALS OF MUSIC
MUSI UN2318	MUSIC THEORY I
MUSI UN2319	MUSIC THEORY II
MUSI UN3321	MUSIC THEORY III

Electives: One 1000- or 2000- or 3000- or 4000-level elective.

#### Pathway: Composition

Required to complete one Theory course (determined by placement test):

MUSI UN1002	FUNDAMENTALS OF MUSIC
MUSI UN2318	MUSIC THEORY I
MUSI UN2319	MUSIC THEORY II
MUSI UN3321	MUSIC THEORY III

Electives: Two from the following courses:

MUSI UN2240	The Song Within Us: Composition, Analysis, Performance
MUSI UN3239	Undergraduate Composition
MUSI UN3241	ADVANCED COMPOSITION I

Electives: One from the following courses:

MUSI UN2205	INTRODUCTION TO DIGITAL MUSIC
MUSI UN2230	History and Practice of Electronic Music
MUSI GU4630	RECORDED SOUND
MUSI GU4810	Sound: Foundations

Electives: One from the following courses:

MUSI GU4525	INSTRUMENTATION
MUSI GU4526	ORCHESTRATION
MUSI GU4515	CONDUCTING MUSIC

#### Performance Credit/MPP Courses

MPP UN1401	BASSOON INSTRUCTION
MPP UN1403	CELLO INSTRUCTION
MPP UN1405	CLARINET INSTRUCTION
MPP UN1407	CLASSICAL SAXOPHONE INSTRUCTION
MPP UN1409	FLUTE INSTRUCTION
MPP UN1411	FRENCH HORN INSTRUCTION
MPP UN1413	GUITAR (BLUEGRASS) INSTRUCTION
MPP UN1414	Guitar (Popular-Contemporary) Instruction
MPP UN1415	GUITAR (CLASSICAL) INSTRUCTION
MPP UN1417	HARP INSTRUCTION
MPP UN1419	OBOE INSTRUCTION
MPP UN1421	ORGAN INSTRUCTION
MPP UN1423	PERCUSSION INSTRUCTION
MPP UN1425	PIANO INSTRUCTION
MPP UN1427	STRING BASS INSTRUCTION
MPP UN1429	TROMBONE INSTRUCTION
MPP UN1431	TRUMPET INSTRUCTION
MPP UN1433	TUBA INSTRUCTION
MPP UN1435	VIOLA INSTRUCTION
MPP UN1437	VIOLIN INSTRUCTION
MPP UN1443	JAZZ BASS INSTRUCTION
MPP UN1445	JAZZ BASS (ELECTRIC) INSTRUCTION
MPP UN1447	JAZZ GUITAR (ELECTRIC) INSTRUCTION
MPP UN1449	JAZZ ORCHESTRATION
MPP UN1451	JAZZ PERCUSSION INSTRUCTION
MPP UN1453	JAZZ PIANO INSTRUCTION
MPP UN1455	JAZZ SAXOPHONE INSTRUCTION
MPP UN1457	JAZZ TROMBONE INSTRUCTION
MPP UN1459	JAZZ TRUMPET INSTRUCTION
MPP UN1461	JAZZ VOICE INSTRUCTION
MPP UN1511	COLLEGIUM MUSICUM
MPP UN1521	UNIVERSITY ORCHESTRA I
MPP UN1531	CHAMBER ENSEMBLE
MPP UN1541	COLUMBIA UNIV JAZZ ENSEMBL
MPP UN1551	WORLD MUSIC ENSEMBLE

MPP UN1601 Performance Seminar  
MasterClass

## CONCENTRATION IN MUSIC (FOR STUDENTS WHO DECLARED THE CONCENTRATION ON OR BEFORE THE 2023-24 ACADEMIC YEAR)

The concentration in music requires a minimum of 28 points, including the following courses:

Required to complete up to Music Theory IV;  
Fundamentals pre-req required if you don't test into Music Theory I or higher:

MUSI UN1002	FUNDAMENTALS OF MUSIC
MUSI UN2318	MUSIC THEORY I
MUSI UN2319	MUSIC THEORY II
MUSI UN3321	MUSIC THEORY III
MUSI UN3322	MUSIC THEORY IV

Required to complete up to Ear-Training IV; Intro Ear-Training pre-req required if you don't test into ET I or higher:

MUSI UN1312	INTRODUCTORY EAR-TRAINING
MUSI UN2314	EAR-TRAINING I
MUSI UN2315	EAR-TRAINING II
MUSI UN3316	EAR-TRAINING III
MUSI UN3317	EAR-TRAINING IV
MUSI GU4318	Ear Training, V

Required to complete both History courses:

MUSI UN3128	HIST-WEST MUS: MID AGE-BAROQUE
MUSI UN3129	HIST-WEST MUS:CLASSICAL-20TH CENTURY

Required to complete Topics course:

MUSI UN3400	TOPICS IN MUSIC # SOCIETY
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Electives: At least one 3000- or 4000-level electives.

The remaining points are to be earned through 1000-level MPP courses, 2000, 3000 or 4000-level courses subject to these constraints:

No more than 6 points of 2000-level courses.

No more than 4 points of 1000-level MPP courses (list below):

Performance Credit/MPP Courses

MPP UN1401	BASSOON INSTRUCTION
MPP UN1403	CELLO INSTRUCTION
MPP UN1405	CLARINET INSTRUCTION
MPP UN1407	CLASSICAL SAXOPHONE INSTRUCTION
MPP UN1409	FLUTE INSTRUCTION
MPP UN1411	FRENCH HORN INSTRUCTION

MPP UN1413 GUITAR (BLUEGRASS) INSTRUCTION

MPP UN1414 Guitar (Popular-Contemporary) Instruction

MPP UN1415 GUITAR (CLASSICAL) INSTRUCTION

MPP UN1417 HARP INSTRUCTION

MPP UN1419 OBOE INSTRUCTION

MPP UN1421 ORGAN INSTRUCTION

MPP UN1423 PERCUSSION INSTRUCTION

MPP UN1425 PIANO INSTRUCTION

MPP UN1427 STRING BASS INSTRUCTION

MPP UN1429 TROMBONE INSTRUCTION

MPP UN1431 TRUMPET INSTRUCTION

MPP UN1433 TUBA INSTRUCTION

MPP UN1435 VIOLA INSTRUCTION

MPP UN1437 VIOLIN INSTRUCTION

MPP UN1443 JAZZ BASS INSTRUCTION

MPP UN1445 JAZZ BASS (ELECTRIC) INSTRUCTION

MPP UN1447 JAZZ GUITAR (ELECTRIC) INSTRUCTION

MPP UN1449 JAZZ ORCHESTRATION

MPP UN1451 JAZZ PERCUSSION INSTRUCTION

MPP UN1453 JAZZ PIANO INSTRUCTION

MPP UN1455 JAZZ SAXOPHONE INSTRUCTION

MPP UN1457 JAZZ TROMBONE INSTRUCTION

MPP UN1459 JAZZ TRUMPET INSTRUCTION

MPP UN1461 JAZZ VOICE INSTRUCTION

MPP UN1511 COLLEGIUM MUSICUM

MPP UN1521 UNIVERSITY ORCHESTRA I

MPP UN1531 CHAMBER ENSEMBLE

MPP UN1541 COLUMBIA UNIV JAZZ ENSEMBL

MPP UN1551 WORLD MUSIC ENSEMBLE

MPP UN1601 Performance Seminar  
MasterClass

## NEUROSCIENCE AND BEHAVIOR

### THE PSYCHOLOGY DEPARTMENT:

Department website: <https://psychology.columbia.edu/>

Office location: 406 Schermerhorn Hall

Office contact: 212-854-3608; [info-psych@columbia.edu](mailto:info-psych@columbia.edu)

Department Chair: Nim Tottenham, Ph.D.

Psychology Major and Concentration Advisors:

- Prof. Patricia Lindemann; [pgl2@columbia.edu](mailto:pgl2@columbia.edu) (Students with last names beginning A-F)
- Prof. Nora Isacoff; [ni2237@columbia.edu](mailto:ni2237@columbia.edu) (Students with last names beginning G-K)
- Prof. Katherine Fox-Glassman; [kjt2111@columbia.edu](mailto:kjt2111@columbia.edu) (Students with last names beginning L-R)
- Prof. John Thorp; [jnt2136@columbia.edu](mailto:jnt2136@columbia.edu) (Students with last names beginning S-Z)

Neuroscience and Behavior Major Advisors:

Psychology:

- Prof. Alfredo Spagna; [as5559@columbia.edu](mailto:as5559@columbia.edu) (Students with last names beginning A-H);
- Prof. Sarah DeMoya; [sed2182@columbia.edu](mailto:sed2182@columbia.edu) (Students with last names beginning I-Q);
- Prof. Chris Baldassano; [cab2304@columbia.edu](mailto:cab2304@columbia.edu) (Students with last names beginning R-Z);

Biology:

- (CC): Dr. Erin Barnhart; [eb3305@columbia.edu](mailto:eb3305@columbia.edu)
- (GS): Prof. Deborah Mowshowitz; [dbm2@columbia.edu](mailto:dbm2@columbia.edu)

Co-Directors of Senior Thesis Advanced Research Program:

- Prof. Lila Davachi; [ld24@columbia.edu](mailto:ld24@columbia.edu)
- Prof. Alfredo Spagna; [as5559@columbia.edu](mailto:as5559@columbia.edu)

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[e.mccaskill@columbia.edu](mailto:e.mccaskill@columbia.edu)

Administrative Manager: Joanna Borchert-Kopczuk, 406 Schermerhorn Hall; 212-854-3940; [jb2330@columbia.edu](mailto:jb2330@columbia.edu)

Undergraduate Curriculum Assistant: Erin Murphy, 406 Schermerhorn Hall; 212-854-8859; [psych-uca@columbia.edu](mailto:psych-uca@columbia.edu)

## THE STUDY OF PSYCHOLOGY

The Department of Psychology offers students a comprehensive curriculum in psychological science, including research methods, cognition, neuroscience, developmental, social, and clinical areas. The curriculum prepares majors for graduate education in these fields and also provides a relevant background for social work, education, medicine, law, and business. Psychology course offerings are designed to meet the varying needs and interests of students, from those wishing to explore a few topics in psychology or to fulfill the science requirement,

to those interested in majoring in Psychology or in Neuroscience and Behavior.

## STUDENT ADVISING

The Department of Psychology offers a variety of advising resources to provide prospective and current undergraduate majors and concentrators with the information and support needed to successfully plan their programs. An overview of these resources is provided on the Psychology Undergraduate Advising Resources website.

Students are encouraged to consult with Peer, Faculty, and Program Advisers as they plan their course of study in Psychology or Neuroscience and Behavior. Faculty and Peer Advisers are important contacts for general advice on class choices, research opportunities, and post-graduation plans. For definitive answers to questions regarding major requirements and other aspects of your degree, including transfer credit, current and prospective majors should consult their Program Adviser (Director of Undergraduate Studies) or the Undergraduate Curriculum Assistant in the departmental office. Program Adviser assignments and contact information are provided on the departmental website. For additional information about program, faculty, peer, and pre-clinical advising, please see the Psychology Undergraduate Advising Resources website.

## Enrolling in Classes

### Major Requirement Checklist

Prior to the start of their final semester, all seniors must submit a Major Requirement Checklist showing all major courses they have taken and those they plan to take. The Psychology department evaluates each checklist to determine whether or not the course plan completes the major requirements and then notifies the student accordingly. If the student's course plan changes, or if it does not satisfy the major requirements, a revised checklist must be submitted. Departmental approval of an accurate and up-to-date checklist will help ensure completion of all major requirements on time for graduation.

### Non-Psychology Courses

Some courses offered outside of the Psychology departments can count toward major requirements (e.g., courses taken in the Statistics Department; cognate courses offered through Philosophy, Business, Law, etc.). A maximum of 2 such non-PSYC courses may be applied toward the major. Courses offered in the Barnard Psychology or Neuroscience departments do not count toward this limit.

### Overlapping Courses

Students cannot receive credit for two courses—one completed at Columbia and one at another institution (including Barnard)—if those courses have largely overlapping content. For example, PSYC UN1001 THE

SCIENCE OF PSYCHOLOGY is similar in content to introductory psychology courses offered at many other institutions, including Barnard; only one such course will receive credit. Similarly, [PSYC UN2630 SOCIAL PSYCHOLOGY](#) and [PSYC BC1138 Social Psychology](#) have overlapping content; only one will receive credit. Please refer to the table of [Overlapping Courses](#) for a partial list of courses at Columbia and Barnard that are known to overlap.

## Preparing for Graduate Study

Most graduate programs in psychology, including those in clinical psychology, require:

An undergraduate course in introductory psychology:

PSYC UN1001	THE SCIENCE OF PSYCHOLOGY
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A course in statistics such as one of the following:

PSYC UN1610	STATISTICS-BEHAVIORAL SCIENTISTS
PSYC UN1660	Advanced Statistical Inference
STAT UN1001	INTRO TO STATISTICAL REASONING
STAT UN1101	INTRODUCTION TO STATISTICS
STAT UN1201	CALC-BASED INTRO TO STATISTICS

A laboratory course in research methods such as one of the following:

PSYC UN1420	RESEARCH METHODS - HUMAN BEHAVIOR
PSYC UN1450	RESEARCH METHODS - SOCIAL COGNITION & EMOTION
PSYC UN1455	RESEARCH METHODS: SOCIAL/PERSONALITY
PSYC UN1490	RESEARCH METHODS - COGNITION/DECISION MAKING

Students should also take a variety of more advanced undergraduate courses and seminars. Students interested in PhD programs in any area of psychology are strongly encouraged to become involved in a research lab, and may wish to participate in the Senior Thesis Advanced Research program (STAR). To join STAR, students must apply by the early fall of their junior year.

Students interested in clinical psychology should obtain experience working in a community service program in addition to supervised individual research experience. Students should consult the department's pre-clinical adviser, [Prof. E'mett McCaskill](#), and attend the department's pre-clinical advising events for more information. Additional resources to help prepare students for graduate study in psychology, and for careers in clinical psychology, are available on the [Department of Psychology's website](#). Students may also sign-up for the [preclinical advising](#)

[listserv](#) to receive emails about events and relevant information.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The Psychology Department accepts a score of 5 on the AP Psychology exam, or a score of 7 on the Higher Level IB Psychology exam, to meet the Science of Psychology requirement. The AP/IB Psychology exam does not count as a course towards their program; students placing out of the Science of Psychology requirement in this way will need to take an additional course to fulfill the required number of courses for their program.

The College Board Advanced Placement (AP) statistics scores do not satisfy the statistics requirement. Students who have completed AP statistics may opt to take a more advanced statistics course to fulfill this requirement with the approval of one of the Psychology Program Advisors.

### Barnard College Courses

A maximum of 5 courses counted toward the major may be from outside of the Columbia Psychology Department ("outside Columbia Psych" includes both Barnard and transfer courses, as well as courses in other departments including Statistics).

The table of [approved Barnard psychology courses](#) indicates which courses have been approved for specific requirements of the psychology major. To seek approval for a course not on the approved list to be applied to a specific requirement, students must contact their program advisor. All Barnard Psychology courses not on the approved list for a specific requirement may be applied as elective credit towards the 11 courses needed for the major requirements.

Barnard Lab courses do not count towards the Research Methods requirement of the Psychology Major or Concentration.

### Transfer Courses

For a course taken outside of Columbia or Barnard to be able to count toward the Psychology Major or the Neuroscience & Behavior Major, the following must be true:

- The course should be substantially similar in content and/or learning objectives to one offered at Columbia.
- The course must have been approved for at least 3 points of credit by GS or CC.
- The grade received must be a B- or better.
- The course must have been taken for a grade (no Pass/Fail).



- The course must have been taken within the past 7 years.

If a course taken at another institution overlaps with a course taken at Columbia, only one will be applied towards the major. Please consult your Program Advisor if you are considering registering for a Columbia or Barnard course that is similar to a transfer course you plan to count toward your major.

#### Psychology Major

- Up to 3 transfer courses may be counted toward the Psychology Major. Approval of transfer credits on a student's Entrance Credit Report toward general requirements for the bachelor's degree does not grant approval of these credits toward the psychology major. Once your school has approved your transfer courses, you then need to confirm whether they can fulfill psychology requirements using the [Major Requirement Substitution Form](#).
- Online or hybrid transfer courses may only be applied towards elective credit for the major. All transfer courses applied to specific major requirements (e.g., Introductory Psychology, Groups 1 – 3, etc.) must have been taken fully in person.
- Students who have completed an introductory psychology course at another institution should submit a Major Requirement Substitution Request (see procedure, below) to verify whether or not this course meets departmental standards to count towards the major. If transfer credit toward the major is not approved, the student must enroll in PSYC UN1001 or PSYC BC1001 to complete this major requirement.
- Statistics courses taken anywhere other than Columbia or Barnard may not count toward the major. Psychology majors will benefit from taking statistics here no matter how well they did in previous intro stats courses. If you are entering Columbia with extensive statistics coursework, your Program Advisor will help you find an appropriate advanced statistics course that can meet the Statistics Requirement of your major.
- The Psychology Department allows students to meet the Science of Psychology requirement with a score of 5 on the AP Psychology exam, or a score of 7 on the Higher Level IB Psychology exam. The AP/IB Psychology exam does not count as a course towards their program; students placing out of the Science of Psychology requirement in this way will need to take an additional course to fulfill the required number for their major.
- College Board Advanced Placement (AP) statistics exam scores may not be used to satisfy the statistics requirement of the Psychology Major.

#### Psychology Concentration

- The same guidelines for transferring courses to count toward the Psychology Major apply to the concentration, except that the maximum number of transfer courses that may count toward the concentration is 2.

#### Neuroscience & Behavior Major

- The Neuroscience & Behavior major is co-sponsored by the Department of Psychology and the Department of Biological Sciences. In addition to one year of college general chemistry, eleven courses are required to complete the Neuroscience & Behavior major: seven from the Department of Biological Sciences and five from the Department of Psychology (commonly referred to as P1-P5). Please, consult [this page](#) for additional information on the major requirements for the Neuroscience and Behavior Major.
- Students should consult their [Program Advisor](#) in the Psychology department before registering for psychology courses offered outside the department. With the Advisor's approval, a maximum of one psychology course from another institution, including Barnard, may be applied toward the psychology portion of the Neuroscience & Behavior major.
- Transfer courses taken in any modality (in-person, online, or hybrid) may be eligible to count toward P1. Transfer courses must have been taken fully in-person to be eligible to count for P2-P5.
- Students who wish to obtain credit for a course taken at Barnard or at another institution should complete the [Major Requirement Substitution Form](#). To be approved for the major, the course should be substantially similar to one offered by this department and approved for this major, and the grade received must be a C- or better if from Barnard, or B- or better if from another institution.
- The Psychology Department allows students to meet the Science of Psychology requirement with a score of 5 on the AP Psychology exam, or a score of 7 on the Higher Level IB Psychology exam. The AP/IB Psychology exam does not count as a course for their program; students placing out of the Science of Psychology requirement in this way will need to take an additional course to fulfill the required number of courses for their major.
- Statistics courses taken anywhere other than Columbia or Barnard may not be counted toward the N&B major; AP Statistics also is not able to count toward the Statistics (i.e., P3) requirement. Students who have completed a statistics course elsewhere are encouraged to fulfill the P3 requirement either with an intermediate/advanced stats course offered at Columbia, or by taking a PSYC UN1400-level research methods course.



## Study Abroad Courses

Students planning to study abroad should consult with their Program Advisor (see above) prior to selecting their courses to see which ones are likely to be able to count toward major requirements. The official process of approving study-abroad courses to count toward your major can begin once you have completed your study abroad semester(s); however, your Program Advisor can give you their best guess for what can and cannot count.

**Psychology majors:** We recommend that you plan to meet most, if not all, of your major requirements while at Columbia. The Psychology Major is quite small in terms of course requirements, to allow for students to explore electives that complement their major coursework. This also allows for students studying abroad to spend that semester focusing on courses that you wouldn't have had the chance to take at Columbia.

**Neuroscience & Behavior majors:** It can be difficult to fit a study-abroad semester in to the N&B major because the Biology requirements include two year-long course sequences. N&B majors looking to study abroad should consult with their advisors as early as possible to see if it will be feasible to complete all of your major requirements.

## Summer Courses

Any course offered by the Psychology Department during the Summer Session is applicable toward the same major requirement(s) as the corresponding course of that same number offered during the academic year. For instance, PSYC S1001 The Science of Psychology meets the same major requirements as does PSYC UN1001 THE SCIENCE OF PSYCHOLOGY.

## CORE CURRICULUM CONNECTIONS

PSYC UN1001 THE SCIENCE OF PSYCHOLOGY and any PSYC course in the 2200- or 2400-level may be used to partially fulfill the science requirement. 2600-level courses and some other psychology courses, including PSYC BC1001 INTRODUCTION TO PSYCHOLOGY and other Barnard psychology courses, may not be used to fulfill the science requirement.

All 3- and 4-point courses numbered in the 32xx, 34xx, 42xx, and 44xx can partially fulfill the science requirement. For more detailed information regarding psychology courses that may be applied toward the science requirement, see the Core Curriculum section in this bulletin.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

All qualified students are welcome to apply to join a research lab and contribute to ongoing projects. Students

may volunteer to work in a lab, register for supervised individual research (PSYC UN3950 Supervised Individual Research), or participate in the department's Senior Thesis Advanced Research (STAR) Program. Information on faculty research is available on the departmental website. Students are advised to read about research laboratories on faculty lab sites and visit the professor's office hours to discuss opportunities. At the beginning of the fall term, the department also hosts a Lab-Preview event for students to learn about research opportunities for the upcoming semester.

## Undergraduate Research in Courses

No more than 4 points of PSYC UN3950 Supervised Individual Research or PSYC UN3920 HONORS RESEARCH may be taken in any one term, and no more than 2 courses' worth (8 points total) of research and field work courses may be applied toward the major. "Research and field work courses" include: PSYC UN3950 SUPERVISED INDIVIDUAL RESEARCH, PSYC BC3466 FIELD WORK # RESEARCH SEMINAR: TODDLER CENTER, PSYC BC3473 CLINICAL FIELD PRACTICUM, PSYC BC3592 Senior Research Seminar and PSYC BC3599 Individual Projects. Research courses must be taken for 3 or 4 points in order to count toward the major. (See above for further restrictions on applying Barnard courses toward the psychology major).

## Senior Thesis Coursework and Requirements

Students with strong interests in psychological/neuroscientific research are encouraged to apply for admission to the Psychology Department's Psych/Neuro Senior Thesis Advanced Research (STAR) program in the fall of their junior year or the equivalent, such that they will be able to participate in the three consecutive semesters (spring - fall - spring) that are required in the program.

**Important:** Students will need to confirm that a professor has agreed to mentor them before being admitted into the program. Therefore, interested applicants should reach out to potential mentors to find a lab placement before applying. **Tip:** The best way to ensure finding a mentor is to get involved in that mentor's research before asking if they can provide mentoring/supervision on your thesis. Please read through all the information below before submitting your application.

Students interested in engaging in a Psych/Neuro Senior Thesis:

The series includes:

1. Enrolling in a 3-semester Senior Thesis Advanced Research series, which includes a weekly seminar and research commitment, that must occur consecutively in your Junior year spring semester and Senior year (fall

& spring), or equivalent [NOTE: this research course includes performing intensive, independent research with a lab mentor, writing a final thesis, and giving an oral presentation of the thesis at the end of the 3rd semester]

2. Enrolling in a one-semester methods course (PSYC UN1920, UN1420/21, UN1450/51, UN1455/56, UN1490/91) in any semester during undergrad (i.e., before or during the series). Students are strongly encouraged to complete this methods training during or before the spring of their junior year (or equivalent).

The application is due in mid fall, and decisions are communicated in time for admitted students to register to begin Psych/Neuro Senior Thesis Advanced Research-related classes in the spring.

The application process comprises the following steps:

1. Identifying a lab sponsor: If you think you might be interested in applying, you should start reaching out to labs that you're interested in well in advance of the application deadline to see if they might have openings for research assistants and if they'd be willing to mentor you in your research. Keep in mind that mentoring a student is a significant commitment on the part of a professor, and so it may be difficult to identify a professor who can provide mentorship. Successful applicants typically demonstrate how their own research interests fall in line with those of their proposed sponsor and attest that their faculty member/PI has agreed to sponsor them. Once you have secured a position in a lab, you and your mentor will need to fill out the [mentor agreement form](#).
2. Complete the online application: The application will be made available on our psychology department [website](#), and comprises a few relatively short questions asking students to describe their previous coursework and research-related experiences and to write about their intended research interests.

## Undergraduate Research Outside of Courses

Most students who work in psychology labs do so either on a volunteer basis or as a paid Research Assistant. See [here](#) for more information on getting involved in a psychology lab.

## DEPARTMENT HONORS AND PRIZES

All students aspiring to graduate with Academic Honors must enroll in the Psychology Department's Psych/Neuro Senior Thesis Advanced Research (STAR) program. However, acceptance to and participation in this program

does not automatically result in earning academic honors (see requirements for academic honors below).

Note the students majoring in Neuroscience & Behavior may earn academic honors through the Department of Biological Sciences instead. (Please check their website for more details on that process.)

## Department Honors

The Psych/Neuro Senior Thesis Advanced Research program is open to students majoring in Psychology or Neuroscience & Behavior and includes the following:

Senior Thesis Advanced Research Seminar ([UN3930](#)):

This is a two-hour, 1-4 credit course that meets biweekly, during which students present and discuss their ongoing research. Students in the course also attend the [Psychology Department's Colloquium Series](#), which features researchers from outside the Department speaking on a variety of topics in Psychology/Neuroscience. The seminar and colloquia always take place on Wednesdays from 4:10 - 6:00 p.m. Students in the Psych/Neuro Senior Thesis Advanced Research program enroll in this course during the spring of their junior year and during the fall and spring of their senior years, or the equivalent.

Senior Thesis Research: Starting in the spring of their junior year and continuing through senior year, all students in the Psych/Neuro Senior Thesis Advanced Research program conduct research under the supervision of a Psychology Department faculty member or a faculty member/principal investigator in a psychology- or neuroscience-focused lab outside the department, including at Barnard College, the Zuckerman Mind Brain Behavior Institute, Columbia Business School, Columbia University Irving Medical Center, and other research institutions in the area.

Research Methods Course: To fulfill this requirement, students should complete a methods course (PSYC UN1920 The How-To's of Research; PSYC UN1420/21 Research Methods: Human Behavior; PSYC UN1450/51 Research Methods: Social Cognition & Emotion; PSYC UN1455/56 Research Methods: Social & Personality Psychology; PSYC UN1490/91 Research Methods: Cognition & Decision-making).

Senior Thesis: Students in the Psych/Neuro Senior Thesis Advanced Research program complete an original research project under the supervision of their faculty advisor. Senior students present their research orally at the last colloquium of the Spring term, and also submit a written senior thesis.

Eligibility for Departmental Honors:

Students participating in the Psych/Neuro Senior Thesis Advanced Research program are also eligible to receive academic honors when they graduate, provided they 1) complete all components of the program, 2) earn a GPA in the major of 3.6 or higher at the time of graduation, and 3)

are recommended by the Psychology department faculty. Please note that academic honors can be awarded to no more than 10% of the graduating class each year, so while only students who have participated in this senior thesis research intensive are eligible to receive academic honors, not everyone in the Senior Thesis Advanced Research program will receive academic honors.

## OTHER IMPORTANT INFORMATION

### Email Communication

The department maintains an e-mail distribution list with the UNIs of all declared majors and concentrators. Students are held responsible for information sent to their Columbia e-mail addresses. Students should read these messages from the department regularly and carefully. They are intended to keep students informed about deadlines, requirements, events, and opportunities. Prospective majors or concentrators who would like to be added to the e-mail distribution list should contact the Undergraduate Curriculum Assistant in the departmental office.

### Online Information

The Department of Psychology [website](#) provides access to a wide variety of information for majors and prospective majors. Among other useful resources, students will find syllabi posted for most lecture and lab courses and for many advanced seminars. Students should read the on-line course syllabi prior to registering for psychology courses. For assistance in finding all necessary resources, students should contact the undergraduate curriculum assistant ([psych-uca@columbia.edu](mailto:psych-uca@columbia.edu)).

### Grade Requirements for the Major

A grade of C-, or higher, must be earned and revealed on your transcript in any Columbia or Barnard course — including the first — that is used to satisfy the major or concentration requirements.

Courses taken on a Pass/D/Fail basis may not be used to satisfy the major or concentration requirements unless the grade of P is uncovered by the Registrar's deadline. Students may petition to have their P/D/F grades uncovered after the registrar's deadline for the following courses only: PSYC UN1001 Science of Psychology, and PSYC UN1610 Introductory Statistics for Behavioral Scientists.

Courses taken for a P grade may not be used to satisfy the major or concentration requirements, except for P grades earned in the Spring 2020 semester, and during semesters when CC and GS enact exceptions allowing P grades to count for major requirements.

## PROFESSORS

Dima Amso  
Niall Bolger  
Lila Davachi  
Geraldine Downey  
William Fifer (Psychiatry, Pediatrics)  
Norma Graham  
Carl Hart  
Tory Higgins  
Donald C. Hood  
Nikolaus Kriegeskorte  
Janet Metcalfe  
Kevin Ochsner (Chair)  
Rae Silver (Barnard)  
Daphna Shohamy  
Herbert Terrace  
Nim Tottenham  
Sarah M.N. Woolley

## ASSOCIATE PROFESSORS

Jon Freeman  
Valerie Purdie-Greenaway  
Randy Auerbach (Psychiatry)

## ASSISTANT PROFESSORS

Mariam Aly  
Christopher Baldassano  
Larisa Heiphetz  
Bianca Marlin  
Sarah Canetta (Psychiatry)  
Yunglin Gazes (Neurology)

## LECTURERS IN DISCIPLINE

Katherine Fox-Glassman  
Patricia Lindemann  
Caroline Marvin  
Alfredo Spagna

## ADJUNCT FACULTY

Usha Barahmand  
Jennifer Blaze  
Helen Brew  
Jeffrey Cohen  
Irit Felsen  
David Friedman  
Hannah Hoch  
Nora Isacoff  
Trenton Jerde  
Tina Kao  
Svetlana Komissarouk  
E'mett McCaskill  
Michele Miozzo  
Michael Naft  
Jenna Reinen

Svetlana Rosis  
Ayanna Sorett

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

Majors and concentrators in psychology and majors in neuroscience and behavior should begin planning a program of study as early as possible. All necessary forms and information are available in [Program Planning Tips](#). All majors and concentrators in [Psychology](#) and majors in [Neuroscience and Behavior](#) should complete a [Major Requirement Checklist \(MRC\)](#) before consulting a program adviser to discuss program plans. At minimum, all students must submit a [Major Requirement Checklist](#) prior to the start of their final semester, so that graduation eligibility can be certified. Once the MRC is submitted, the Undergraduate Curriculum Assistant and the DUS's will review your curriculum plans and advise if changes need to be made.

### Program Planning for all Students

The department's [program goals](#) start with the development of a solid knowledge base in psychological science. Consistent with the value psychology places on empirical evidence, courses at every level of the curriculum nurture the development of skills in research methods, quantitative literacy, and critical thinking, and foster respect for the ethical values that undergird the science of psychology.

Most of these [program goals](#) are introduced in [PSYC UN1001 THE SCIENCE OF PSYCHOLOGY](#), the recommended first psychology course required for all majors that satisfies the prerequisite for most 2000-level courses. These goals are extended and reinforced in our statistics (1600-level) and research methods (1400-level) research methods courses, as well as in the 2000-level lecture courses and 3000- and 4000-level seminars. Each of the 2000-level lecture courses enables students to study systematically, and in greater depth, one of the content areas introduced in [PSYC UN1001 THE SCIENCE OF PSYCHOLOGY](#). These lecture courses are the principal means by which psychology majors satisfy the distribution requirements, ensuring not only depth but also breadth of coverage across three central areas of psychology: (1) perception and cognition, courses in the 2200s, (2) psychobiology and neuroscience, courses in the 2400s, and (3) social, personality, and abnormal psychology, courses in the 2600s. To complete the major, students take one or more advanced seminars and are encouraged to participate in supervised research courses, where they have the opportunity to explore research questions in depth and further develop their written and oral communication skills.

### Course Numbering Structure

Course numbers reflect the structure of the Psychology curriculum:

- The 1000-level comprises introductions to psychology, introductory research methods courses, and statistics. [PSYC UN1001 THE SCIENCE OF PSYCHOLOGY](#) is an introductory course with no prerequisites, which can serve as the prerequisite for most of the 2000-level courses. [PSYC UN1021 Science of Psychology: Explorations and Applications](#) is an alternative version of [PSYC UN1001 THE SCIENCE OF PSYCHOLOGY](#) and fulfills the same requirements. The 1400s contain the research methods laboratory courses, and the 1600s contain statistics courses; these two course types are designed to prepare students to be able to understand, critique, and conduct the types of research found in many psychology and neuroscience labs.
- The 2000-level comprises lecture courses that are introductions to areas within psychology; most require [PSYC UN1001 THE SCIENCE OF PSYCHOLOGY](#) as a prerequisite.
- The 3000-level comprises more advanced and specialized undergraduate courses; most are given in a seminar format and require instructor permission.
- The 3900s are the courses providing research opportunities for undergraduates.
- The 4000-level comprises advanced seminars suitable for both advanced undergraduates and graduate students, and require instructor permission.

Subcategories within the 2000-, 3000-, and 4000-levels correspond to the three groups in our distribution requirement for undergraduate Psychology majors:

1. Perception and cognition (2200s, 3200s, and 4200s),
2. Psychobiology and neuroscience (2400s, 3400s, and 4400s), and
3. Social, personality, and abnormal psychology (2600s, 3600s, and 4600s).

Additionally, we designate Integrative and Applied courses using x800s (e.g., GU4880) and Advanced Topics in Psychology Research using the x900s (e.g., UN1910, UN1920, UN1930, UN1990, GU4930)

Note that Barnard psychology courses do not follow the same numbering scheme.

### Guidance for First-Year Students

Students with no prior psychology coursework should start by taking PSYC 1001 The Science of Psychology. PSYC 1001 or an equivalent introductory psychology course is a prerequisite to almost every other PSYC course, with the exception of PSYC 2630 Social Psychology.



Students who have taken an introductory psychology course may enroll in any PSYC course for which they meet the prerequisites. The best courses for students just starting out are a statistics course (PSYC 1610 is recommended) or any of the 2000-level PSYC lecture courses.

## Guidance for Transfer Students

Approval of transfer credits on a student's Entrance Credit Report toward general requirements for the B.A. degree does not grant approval of these credits toward the psychology major. Students must apply for written approval of transfer credit towards the major by submitting the [Major Requirement Substitution Form](#) and supporting documentation. This form, along with additional information about transfer credits can be found on the [Transfer Credit page of our website](#).

### Requirements for Transfer Courses

For a course taken outside of Columbia or Barnard to be able to count toward the Psychology Major or the Neuroscience & Behavior Major, the following must be true:

- The course should be substantially similar in content and/or learning objectives to one offered at Columbia.
- The course must have been approved for at least 3 points of credit by GS or CC.
- The grade received must be a B- or better.
- The course must have been taken for a grade (no P grades).
- The course must have been taken within the past 7 years.
- If a course taken at another institution overlaps with a course taken at Columbia, only one will be applied towards the major. Please consult your Program Advisor if you are considering registering for a Columbia or Barnard course that is similar to a transfer course you plan to count toward your major.

### Psychology Major

Up to 3 transfer courses may be applied toward the psychology major. Any transfer courses thus applied count toward the limit of 5 courses from outside the Columbia Psychology Department.

Students who have completed an introductory psychology course at another institution should submit a Major Requirement Substitution Request (see procedure, below) to verify whether or not this course meets departmental standards to count towards the major. If transfer credit toward the major is not approved, the student must enroll in PSYC UN1001 or PSYC BC1001 to complete this major requirement.

Statistics courses taken anywhere other than Columbia or Barnard may not count toward the major. Psychology majors will benefit from taking statistics here no matter how well they did in previous intro stats courses. If you are entering Columbia with extensive statistics coursework, your Program Advisor will help you find an appropriate advanced statistics course that can meet the Statistics Requirement of your major.

To count transfer courses toward a specific requirement of the major (e.g., Science of Psych; one of the Distribution Requirements), courses must have been taken fully in-person. Transfer courses taken online (or in hybrid format) are only eligible to count toward the elective portion of the major.

The Psychology Department allows students to meet the Science of Psychology requirement with a score of 5 on the AP Psychology exam, or a score of 7 on the Higher Level IB Psychology exam. The AP/IB Psychology exam does not count as a course or towards their program; students placing out of the Science of Psychology requirement in this way will need to take an additional course to fulfill the required number of courses for their major.

College Board Advanced Placement (AP) statistics exam scores may not be used to satisfy the statistics requirement of the Psychology Major.

### Psychology Concentration

The same guidelines for transferring courses to count toward the Psychology Major apply to the concentration, except that the maximum number of transfer courses that may count toward the concentration is 2.

### Neuroscience & Behavior Major

The Neuroscience & Behavior major is co-sponsored by the Department of Psychology and the Department of Biological Sciences. In addition to one year of college general chemistry, eleven courses are required to complete the Neuroscience & Behavior major: seven from the Department of Biological Sciences and five from the Department of Psychology (commonly referred to as P1-P5). Please, consult [this page](#) for additional information on the major requirements for the Neuroscience and Behavior Major.

Students should consult their [Program Advisor](#) in the Psychology department before registering for psychology courses offered outside the department. With the Advisor's approval, a maximum of one psychology course from another institution, including Barnard, may be applied toward the psychology portion of the Neuroscience & Behavior major. Transfer courses taken in any modality (in-person, online, or hybrid) may be eligible to count toward P1. Transfer courses must have been taken fully in-person to be eligible to count for P2-P5. Students who wish to obtain



credit for a course taken at Barnard or at another institution should complete the [Major Requirement Substitution Form](#). To be approved for the major, the course should be substantially similar to one offered by this department and approved for this major, and the grade received must be a C- or better if from Barnard, or B- or better if from another institution.

The Psychology Department allows students to meet the Science of Psychology requirement with a score of 5 on the AP Psychology exam, or a score of 7 on the Higher Level IB Psychology exam. The AP/IB Psychology exam does not count as a course or toward a student's points total for their program; students placing out of the Science of Psychology requirement in this way will need to take an additional course to fulfill the required number for their major.

Statistics courses taken anywhere other than Columbia or Barnard may not be counted toward the N&B major; AP Statistics also is not able to count toward the Statistics (i.e., P3) requirement. Students who have completed a statistics course elsewhere are encouraged to fulfill the P3 requirement either with an intermediate/advanced stats course offered at Columbia, or by taking a PSYC UN1400-level research methods course.

## UNDERGRADUATE PROGRAMS OF STUDY

### Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors

#### Double Majors/Concentrations

All students attempting to complete double majors, double concentrations, or a combination of a major and a concentration should consult the college rules for double counting of [courses](#).

#### Overlapping Courses

Students cannot receive credit for two courses—one completed at Columbia and one at another institution (including Barnard)—if those courses have largely overlapping content. For example, PSYC UN1001 THE SCIENCE OF PSYCHOLOGY is similar in content to introductory psychology courses offered at many other institutions, including Barnard; only one such course will receive credit. Similarly, PSYC UN2630 SOCIAL PSYCHOLOGY and PSYC BC1138 Social Psychology have overlapping content; only one will receive credit. Please refer to the table of [Overlapping Courses](#) for a partial list of courses at Columbia and Barnard that are known to overlap.

#### Grade Requirements for the Major

A grade of C- or higher must be earned and revealed on the transcript in any Columbia or Barnard course, including the

first, that is used to satisfy the major requirements. The grade of P is not accepted for credit towards the [Psychology major](#), [Psychology concentration](#), or [Neuroscience and Behavior major](#). Courses taken on a Pass/D/Fail basis may not be used to satisfy the major or concentration requirements unless the grade of P is uncovered by the Registrar's deadline. Students may petition to have their P/D/F grades uncovered after the registrar's deadline for the following three courses only: PSYC UN1001 Science of Psychology, PSYC UN1010 Mind, Brain, & Behavior (no longer offered), and PSYC UN1610 Introductory Statistics for Behavioral Scientists. Courses taken for a P grade may not be used to satisfy the major or concentration requirements, except for P grades earned in the Spring 2020 semester.

#### Major Requirement Checklist

Prior to the start of their final semester, all seniors must submit a [Major Requirement Checklist](#) showing all major courses they have taken and those they plan to take. The Psychology department evaluates each checklist to determine whether or not the course plan completes the major requirements and then notifies the student accordingly. If the student's course plan changes, or if it does not satisfy the major requirements, a revised checklist must be submitted. Departmental approval of an accurate and up-to-date checklist will help ensure completion of all major requirements on time for graduation.

### Major in Psychology

Please read [Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors](#) (p. ) above.

#### Major Requirements

Students must complete 11 courses in Psychology or an approved cognate discipline. To count toward the major, a course must be taken for 3 or more points. At least 6 of the 11 courses must be in the Columbia Psychology Department.

These 11 courses must include:

1. Introductory Psychology Course
2. One Statistics course
3. One Research Methods course
4. One Group I Course
5. One Group II Course
6. One Group III Course
7. One course meeting the Seminar requirement
8. One course meeting the integrative/applied Special Elective requirement

### 9. Enough PSYC electives to complete 11 courses

Each course may fulfill only one of these major requirements. See below for details on each of these requirements.

#### The Introductory Psychology Course

- [PSYC UN1001](#) THE SCIENCE OF PSYCHOLOGY

#### A Statistics Course

Select one of the following:

- [PSYC UN1610](#) STATISTICS-BEHAVIORAL SCIENTISTS
- [PSYC UN1660](#) Advanced Statistical Inference
- [STAT UN1001](#) INTRO TO STATISTICAL REASONING
- [STAT UN1101](#) INTRODUCTION TO STATISTICS (formerly STAT W1111)
- [STAT UN1201](#) CALC-BASED INTRO TO STATISTICS (formerly STAT W1211)

#### A Research Methods Course

Select one of the following:

- [PSYC UN1420](#) RESEARCH METHODS - HUMAN BEHAVIOR
- [PSYC UN1450](#) RESEARCH METHODS - SOCIAL COGNITION # EMOTION
- [PSYC UN1455](#) RESEARCH METHODS: SOCIAL/ PERSONALITY
- [PSYC UN1490](#) RESEARCH METHODS - COGNITION/DECISION MAKING

Majors are strongly advised to complete the statistics and research methods requirements, in that order, by the end of their junior year. Students are advised to verify the specific prerequisites for research methods courses, most of which require prior completion of a statistics course.

#### Distribution Requirement

One course (3 points or more) must be taken from each of the following three groups (in addition to the introductory, statistics, and research methods courses described above):

- Group I—Perception and cognition: courses numbered in the 2200s, 3200s, or 4200s.

- Group II—Psychobiology and neuroscience: courses numbered in the 2400s, 3400s, or 4400s. Also [PSYC UN1010](#) Mind, Brain and Behavior (no longer offered).
- Group III—Social, personality, and abnormal: courses numbered in the 2600s, 3600s, or 4600s.

Research Methods courses do not fulfill any of the Group distribution requirements.

#### Seminar Requirement

Students must complete one course meeting the Seminar requirement. A seminar course must be taken for 3 or more points.

All courses offered through the Columbia Psychology Department and numbered in the 3200s, 3400s, 3600s, 4200s, 4400s, and 4600s count toward the seminar requirement. Not all Barnard courses taught in a seminar format fulfill this requirement—see Barnard Courses, below, for more information.

Seminars are usually taken in the junior and senior year as a culmination of the major program, but any students who have met the prerequisites and gain the instructor's permission to join the course may enroll. Enrollment in all seminar courses requires the instructor's permission; students are advised to contact instructors at least one month prior to registration to request seminar admission. Note that honors, senior thesis research intensive, and supervised individual research courses ([PSYC UN3910](#) HONORS SEMINAR, [PSYC UN3920](#) HONORS RESEARCH, [PSYC UN3930](#) Senior Thesis Advanced Research Seminar, and [PSYC UN3950](#) Supervised Individual Research) will not meet the seminar requirement.

For those completing the new major requirements, no course may be counted twice in fulfillment of the above major requirements: separate courses must be taken to fulfill the seminar requirement and each distribution group.

#### Special Elective

The Special Elective encompasses a wide range of courses: those that cut across and connect different sub-disciplines within psychology; those that integrate psychology with other disciplines; those that apply psychology to real-world problems; those that dig deeper into advanced statistics and methods topics; and those that offer hands-on experience with psychology research.

The courses listed [here](#) are pre-approved to count toward the Special Elective requirement. If you would like to count a course that does not appear on the list, please contact your [Program Advisor](#) prior to enrolling.

#### Electives

Additional psychology courses ("electives") must be taken for a total of 11 courses.

Once a student has met the specific requirements of the major, any other psychology or approved cognate courses that they take to complete the 11-course minimum are considered electives.

As described below, these may include a limited number of research courses, transfer courses, and Barnard psychology courses not approved for specific requirements.

No course may be counted twice in fulfillment of the above major requirements.

### **Old Major Requirements (for students who entered Columbia prior to Fall 2020)**

Students must complete 30 or more points to complete the Psychology Major. Those 30 points must include:

1. Introductory Psychology Course
2. One Statistics course
3. One Research Methods course
4. One Group I Course
5. One Group II Course
6. One Group III Course
7. One course meeting the Seminar requirement
8. Enough PSYC electives to complete 30 points

## **Major in Neuroscience and Behavior**

Please read [Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors](#) above.

The department cosponsors an interdepartmental major in neuroscience and behavior with the Department of Biological Sciences. For assistance in planning the psychology portion of the neuroscience and behavior major, refer to the [Program Planning Tips website](#) and use the appropriate [major requirement checklist](#).

No course may be counted twice in fulfillment of the biology or psychology requirements described below. Many graduate programs in neuroscience also require one year of calculus, one year of physics, and chemistry through organic.

### **Required Courses**

In addition to one year of college general chemistry, eleven courses are required to complete the major—six from the Department of Biological Sciences and five from the Department of Psychology. For the definitive list of biology requirements, see the [Department of Biological Sciences website](#).

\*NOTE: For students entering in Fall 2024 or later, two biology elective courses will be required. For students entering prior to Fall 2024, one biology elective course will be required.

### **Required Chemistry Courses**

One year of college chemistry is required prior to taking Introductory Biology.

### **Required Biology Courses**

1. [BIOL UN2005](#) INTRO BIO I: BIOCHEM,GEN,MOLEC
2. [BIOL UN2006](#) INTRO BIO II:CELL BIO,DEV/PHYS
3. [BIOL UN3004](#) NEUROBIO I:CELLULAR # MOLECULR
4. [BIOL UN3005](#) NEUROBIO II: DEVPT # SYSTEMS
5. Two additional 3000- or 4000-level biology course from a [list approved by the biology adviser](#) to the program.  
\*NOTE: For students entering in Fall 2024 or later, two biology elective courses will be required. For students entering prior to Fall 2024, one biology elective course will be required.\*

### **Required Psychology Courses**

1. [PSYC UN1001](#) THE SCIENCE OF PSYCHOLOGY
2. [PSYC UN2430](#) COGNITIVE NEUROSCIENCE or [PSYC UN2450](#) BEHAVIORAL NEUROSCIENCE or [PSYC UN2470](#) Fundamentals of Human Neuropsychology
3. One statistics or research methods course from the following:
  - [PSYC UN1420](#) RESEARCH METHODS - HUMAN BEHAVIOR
  - [PSYC UN1450](#) RESEARCH METHODS - SOCIAL COGNITION # EMOTION
  - [PSYC UN1455](#) RESEARCH METHODS: SOCIAL/ PERSONALITY
  - [PSYC UN1490](#) RESEARCH METHODS - COGNITION/DECISION MAKING
  - [PSYC UN1610](#) STATISTICS-BEHAVIORAL SCIENTISTS
  - [PSYC UN1660](#) Advanced Statistical Inference
  - [PSYC UN1920](#) The How-Tos of Research
  - [PSYC UN1950](#) Neuroscience Methods: Cells and Circuits

- [STAT UN1101](#) INTRODUCTION TO STATISTICS (formerly STAT W1111)
- [STAT UN1201](#) CALC-BASED INTRO TO STATISTICS (formerly STAT W1211)
- Please note, STAT UN1001 does not count towards the Neuroscience & Behavior major.

4. One additional 2000- or 3000-level psychology lecture course from the approved list [here](#).

\*Please make careful note of this list, as courses not listed here will not count towards the P4 requirement.

5. One advanced psychology seminar from the approved list [here](#)

Note: Students wishing to use a seminar course not listed above to meet the P5 seminar requirement must contact their psychology adviser before enrolling to request permission for an exception. Generally speaking, permission for such exceptions is only granted when there is a compelling case related to the student's research or area of study. Students requesting permission to use a course not on this list must ensure that their substantive coursework in the seminar (generally their final paper) is on a neuroscience-focused topic.

#### Exceptions to Biology Requirements

Any exceptions must be approved in advance by a biology adviser and students must receive an email notification of that approval. Students may substitute Barnard College courses only with prior permission from a Biology Department adviser.

### A note on double counting and multiple programs

All students attempting to complete double majors, double concentrations, or a combination of a major and a concentration should consult the college rules for double counting of [courses](#). The psychology department does not place additional restrictions on double counting. Students with questions about double counting should consult their academic advisor. Psychology program advisors do not advise about double counting.

Students may not double-major in both Psychology and Neuroscience & Behavior, since both of these programs are housed in the same department.

Because of the overlap between the Cognitive Science major and both Psychology and Neuroscience & Behavior, students should not plan to pursue a double major in those two programs.

### Minor in Psychology

The Psychology Department does not currently offer any minors.

SEAS students pursuing a minor in Psychology should consult with their SEAS advisors; the Columbia Psychology Department does not administer that program.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Psychology

Please read [Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors](#) above.

#### Concentration Requirements

Students must complete 7 courses in Psychology or an approved cognate discipline. To count toward the concentration, a course must be taken for 3 or more points. The following requirements must be met:

1. [PSYC UN1001](#) THE SCIENCE OF PSYCHOLOGY
2. A Statistics or Research Methods course ([PSYC UN1610](#) STATISTICS-BEHAVIORAL SCIENTISTS, [STAT UN1001](#) INTRO TO STATISTICAL REASONING, [STAT UN1101](#) INTRODUCTION TO STATISTICS, [STAT UN1201](#) CALC-BASED INTRO TO STATISTICS, or a Research Methods course in the PSYC 14xx's)
3. Either 3 courses in one group, or 1 course in each of the 3 groups: Group I - Cognition & Perception; Group II - Psychobiology & Neuroscience; Group III - Social, Personality, & Abnormal
4. Additional elective courses in psychology to complete the 7-course requirement

Restrictions on research credits, Barnard credits, non-psychology courses, and transfer credits are modified from those of the psychology major as follows:

- No more than 2 transfer courses from other institutions can be applied toward the concentration.
- No more than 3 total courses from outside Columbia (Barnard and/or transfer) can be applied to the concentration.
- A maximum of 1 non-PSYC course can count toward concentration requirements (e.g., courses taken in the Statistics Department; cognate courses offered through Philosophy, Business, Law, etc.).
- No more than 1 semester of [PSYC UN3950](#) SUPERVISED INDIVIDUAL RESEARCH or other



supervised research course (taken for 3 or 4 points) can count towards the concentration.

Except as noted above, other regulations outlined in the Psychology Major section regarding grades, transfer credits, and overlapping courses also apply toward the Psychology Concentration.

Old Concentration Requirements (for students entering Columbia prior to Fall 2020)

A concentration in psychology requires a minimum of 18 points, including PSYC UN1001 THE SCIENCE OF PSYCHOLOGY or PSYC UN1021 Science of Psychology: Explorations and Applications and courses in at least two of the three groups listed under “Distribution Requirement” for the psychology major.

Restrictions on research credits, Barnard credits, and transfer credits are modified from those of the psychology major as follows:

1. Only 4 points total may be applied toward the concentration from research or field-work courses, including: PSYC UN3950 Supervised Individual Research, PSYC UN3920 HONORS RESEARCH PSYC BC3466 FIELD WORK # RESEARCH SEMINAR: TODDLER CENTER, PSYC BC3473 CLINICAL FIELD PRACTICUM, PSYC BC3592 Senior Research Seminar, and PSYC BC3599 Individual Projects;
2. Only 5 points from Barnard (including PSYC BC1001 INTRODUCTION TO PSYCHOLOGY) may be applied toward the concentration.
3. Only 5 points total (including any Barnard points) from approved psychology courses taken at other institutions may be applied toward the concentration

Barnard Lab courses do not count towards the Research Methods requirement of the Psychology Major or Concentration.

## PHILOSOPHY

### THE PHILOSOPHY DEPARTMENT:

Department website: <https://philosophy.columbia.edu/>

Office location: 708 Philosophy Hall

Office contact: 212-854-3196, [hmd2151@columbia.edu](mailto:hmd2151@columbia.edu)

Director of Undergraduate Studies: Wolfgang Mann, 705 Philosophy Hall; 212-854-7887; [wrm4@columbia.edu](mailto:wrm4@columbia.edu)

Economics-Philosophy Adviser: Jessica Collins, 714 Philosophy Hall; 212-854-3970; [jessica.collins@columbia.edu](mailto:jessica.collins@columbia.edu)

Undergraduate Administrator: Haley Donovan, 708 Philosophy Hall; 212-854-8507; [hmd2151@columbia.edu](mailto:hmd2151@columbia.edu)

## THE STUDY OF PHILOSOPHY

Students interested in philosophy may pursue a major either in philosophy or in economics-philosophy. Because philosophy treats issues fundamental to both the sciences and the humanities, students are also welcome to combine their philosophy major with work in other fields. Before declaring a major in philosophy or economics-philosophy, and before deciding to combine philosophy with another discipline, students should meet with the director of undergraduate studies to formulate the program best for them.

Philosophy majors are given a foundation in logic and philosophical methodology, and are asked to confront fundamental questions in the main areas of philosophy: epistemology and metaphysics, ethics and political philosophy, philosophy of mind and language, and history of philosophy. The department requires that all majors take at least one seminar (PHIL UN3912), designed to allow students to focus on particular philosophical issues or texts in greater depth. Outstanding seniors may also pursue their own philosophical project in a senior thesis.

Over and above the courses required of all majors, there is room for considerable flexibility. Through an appropriate choice of electives from among the department's offerings (and from related courses in other departments), there are special opportunities for focusing more intensively on one or two subfields of philosophy, e.g., logic and the philosophy of mathematics, philosophy of science, ethics and political philosophy, or the history of philosophy. Students should consult with the director of undergraduate studies on how best to pursue such programs.

## THE STUDY OF ECONOMICS-PHILOSOPHY

The Joint Major in Economics and Philosophy is an interdisciplinary one which, while introducing students to the basic methodologies of economics and philosophy, stresses areas of particular concern to both. These include subjects such as rationality and decision making, justice and well-being, freedom and collective choice, and the nature of empirical scientific theories.

There are two advisers for the Joint Major, one in the Department of Economics and one in the Department of Philosophy. Please note that the economics adviser can advise only on the economics requirements and the philosophy adviser can advise only on the philosophy requirements.



Prospective majors are strongly advised to discuss the major early in their sophomore year. Each major is expected to meet with the departmental advisers in the middle of their junior year and at the beginning of their senior year.

## STUDENT ADVISING

Director of Undergraduate Studies: Wolfgang Mann, 705 Philosophy Hall; 212-854-7887; [wrn4@columbia.edu](mailto:wrn4@columbia.edu)

Economics-Philosophy Adviser: Jessica Collins, 714 Philosophy Hall; 212-854-3970; [jessica.collins@columbia.edu](mailto:jessica.collins@columbia.edu)

Undergraduate Administrator: Haley Donovan, 708 Philosophy Hall; 212-854-8507; [hmd2151@columbia.edu](mailto:hmd2151@columbia.edu)

## Consulting Advisers

- Students with questions regarding the Philosophy major or concentration should contact the DUS by email to set up an appointment.
- Students interested in joining the Philosophy Undergraduate listserv can email Haley Donovan at [hmd2151@columbia.edu](mailto:hmd2151@columbia.edu).
- Undergraduate Open Houses, Information Events, and Welcome Events will be advertised through our listserv and Department website.

## Enrolling in Classes

- Please note some courses require professor permission to join. If this is the case, students should email the professor as early as possible to join the course.

## Preparing for Graduate Study

- Students interested in pursuing graduate studies should consult with their advisers or the DUS.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

- Coursework in fulfillment of a major or minor in Philosophy must be taken at Columbia University unless explicitly noted here and/or expressly permitted by the Director of Undergraduate Studies. Exceptions or substitutions permitted by the Director of Undergraduate Studies should be confirmed in writing by email to the student.

## Advanced Placement

- The Department of Philosophy does not accept any advanced placement credit toward courses in the curriculum.

## Barnard College Courses

- The Columbia and Barnard Philosophy Departments function together as a unit. The courses specifically designed for Barnard students (first-year and senior seminars) do not count towards the Columbia major or concentration. But all other courses in the Columbia-Barnard joint curriculum do count for the major or concentration, regardless of whether the instructor is associated with Barnard or Columbia.

## Transfer Courses

- Courses taken at other institutions may count only after review and approval by the DUS (a written record of approval must be submitted to 708 Philosophy by the student or DUS). No more than 5 courses taken elsewhere may be applied to the major, and no more than 4 to the concentration.

## Study Abroad Courses

- Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Undergraduate Global Engagement and taught by Columbia instructors) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus. If they are not explicitly listed by the department as fulfilling requirements in the major or minor [or special program or concentration], the DUS will need to confirm that they can be used toward requirements in the major/minor.
- Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia, and are subject to the same policies as other transfer courses. There will be a limit on the number of courses taken abroad that can be applied to the major/minor, and they must be approved by the DUS.

## Summer Courses

- Summer courses at Columbia are offered through the School of Professional Studies. Courses taken in a Summer Term may be used toward requirements for the major/minor only as articulated in the department/institute/center guidelines or by permission of the Director of Undergraduate Studies. More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin.
- Two courses taken in summer sessions can count towards the major.

## CORE CURRICULUM CONNECTIONS

- Students may be interested in course offerings in this department that can be taken in fulfillment of the [Global Core requirement / Language requirement / Science requirement] of the Core Curriculum. See the list of approved courses for the requirement on this page of the Bulletin that lists all approved courses to see the list of courses in this department that have been approved for the requirement.
- Core classes such as Contemporary Civilization may not count towards the major.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Senior Thesis Coursework and Requirements

- Undergraduates majoring in Philosophy or Economics-Philosophy may propose to write a senior thesis. Students who wish to write a thesis should approach a faculty member at the end of their junior or beginning of their senior year, and begin working on a proposal early in the fall semester of their senior year. Proposals are due in early December, and will be reviewed by a committee which will include the Director of Undergraduate Studies; students will be notified of the committee's decision within two weeks. Students whose proposals are approved should register for their faculty advisor's section of Supervised Independent Research for the spring term of their senior year. Theses are due in early April.
- See the full policy and procedure concerning senior theses on the departmental webpage: <http://philosophy.columbia.edu/content/senior-thesis-philosophy>

## DEPARTMENT HONORS AND PRIZES

### Department Honors

- Departmental honors are highly competitive. Normally no more than 10% of the majors graduating in the department each year will receive departmental honors. In order to qualify for departmental honors in philosophy, a student must have a grade point average of at least 3.6 in the major.
- For students with a GPA of 3.6 or above, there are two possible routes to consideration:
  - A student may complete a senior thesis; those students who complete senior theses will automatically

be considered for honors without having to be nominated.

- A student may be nominated by a faculty member early in the spring semester of their senior year; nominated students will be invited to submit a writing sample. A nominated student who is also writing a thesis may submit their thesis as the writing sample, or may choose to submit a different work.
- Both the senior thesis and writing samples are due in early April. The departmental honors committee will then review the submitted material and the academic records of the writers, and will report to the full faculty.
- The full faculty will then decide which students to recommend for the departmental honors to the Columbia College and General Studies administrations.

### Academic Prizes

- Columbia College Prizes
  - Adam Leroy Jones Prize
    - Established by Mrs. Leroy Jones in memory of her husband who was Associate Professor of Philosophy and Director of University Admissions from 1909 until 1934, the prize may be awarded to a student in the College for the best essay on a topic in the Philosophy of Science, or in the Foundations of Logic.
  - James Gutmann Prize
    - Established in 1987 in honor of James Gutmann, CC'18 and Professor of Philosophy, by his family and friends on the occasion of his 90th birthday. It may be awarded each year to a graduating Columbia College senior in Philosophy who plans to pursue graduate work in the field.
- Lina Kahn Prize
  - Established in 1965 by the family of the late Lina Kahn, who received a Ph.D. in Philosophy in 1916. This annual competition, which is open to graduate students only, awards \$500 to the best paper in metaphysics.

## OTHER IMPORTANT INFORMATION

- Student Organizations
  - Meade Anderson Undergraduate Philosophy Forum
    - Wednesdays 8:00-9:00 pm in 716 Philosophy Hall
    - Join us each week to discuss a topic of philosophical interest! Discussions do not require any background knowledge or preparation. All undergraduates are welcome to attend, and we hope to see you there.
    - The Forum Leaders are Samantha Rosen ([skr2168@barnard.edu](mailto:skr2168@barnard.edu)) and Oscar Lloyd ([oa12113@columbia.edu](mailto:oa12113@columbia.edu)).
- Gadfly
  - The Gadfly is the undergraduate philosophy magazine of Columbia University, which publishes academic papers, interviews, events, and free-form work.
  - <https://www.thegadflymagazine.org>

## PROFESSORS

David Albert  
 Akeel Bilgrami  
 Taylor Carman (Barnard)  
 Haim Gaifman  
 Lydia Goehr  
 Axel Honneth  
 Wolfgang Mann  
 Christia Mercer  
 Michele Moody-Adams  
 John Morrison (Barnard)  
 Fred Neuhouser (Barnard)  
 Christopher Peacocke  
 Carol Rovane  
 Achille Varzi  
 Katja Vogt

## ASSOCIATE PROFESSORS

Justin Clarke-Doane  
 Jessica Collins  
 Melissa Fusco  
 Tamar Lando  
 Karen Lewis (Barnard)

## ASSISTANT PROFESSORS

Allison Aitken  
 Dhananjay Jagannathan  
 Francey Russell (Barnard)

### Affiliated Faculty

Souleymane Bachir Diagne (French and Romance Philology)  
 Jon Elster (Political Science)  
 Wayne Proudfoot (Religion)  
 Gayatri Spivak (University Professor)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

- PHIL UN1001 Intro to Philosophy & PHIL UN1401 Intro to Logic do not count towards the undergraduate major in Philosophy.
- Courses in which a grade of D has been received do not count toward the major or concentration.

### Course Numbering Structure

- No more than one course at the 1000 level can be counted toward the major.
- In order to enroll in one of the 4000-level courses, students must have taken at least four courses in philosophy.
- Students may choose courses prefixed with GR only with the instructor's permission. Additionally, because these seminars are capped, students should register early.

### Guidance for First-Year Students

- Refer to the coursework and majors requirements sections.

### Guidance for Transfer Students

- Courses taken at other institutions may count only after review and approval by the DUS (a written record of approval must be submitted to 708 Philosophy by the student or DUS). No more than 5 courses taken elsewhere may be applied to the major, and no more than 4 to the concentration.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

- PHIL UN2101\* or another course in ancient or medieval philosophy
- PHIL UN2201\* or another course in the history of late medieval or early modern philosophy (e.g. PHIL UN3237 or UN3264)

- PHIL UN3411 or, in exceptional cases, a more advanced course in logic
- At least one course in either metaphysics or epistemology (e.g. PHIL GU4501, UN3601, or a related course to be chosen in consultation with the Director of Undergraduate Studies)
- At least one course in either systematic ethics or social and political philosophy (e.g. PHIL UN2702, UN3701, UN3751, or a related course to be chosen in consultation with the Director of Undergraduate Studies)
- At least one majors' seminar, i.e. UN3912

\* Substituted courses must be selected in consultation with the DUS.

### Major in Philosophy

Students considering a major in philosophy are strongly encouraged to meet with the director of undergraduate studies early in their sophomore year. All majors must consult with the director of undergraduate studies each term before registering for classes in order to plan and update their individual programs of study.

Students planning to major in philosophy are advised to begin with PHIL UN1010 METHDS/PROB OF PHILOS THOUGHT. Beginning students are especially encouraged to take 2000-level courses, both in the history of philosophy and in systematic philosophy. These courses are typically less specialized and less narrowly focused than higher-numbered ones. More advanced students are encouraged to take 3000-level courses. The department requires that all majors take at least one seminar, PHIL UN3912.

*\*PLEASE NOTE\* PHILUN1401 INTRODUCTION TO LOGIC does not count for credit towards the undergraduate major in philosophy.\* No more than one course at the 1000-level can be counted toward the major. In order to enroll in one of the 4000-level courses, students must have taken at least four courses in Philosophy.*

The major requires a minimum of 30 points in philosophy chosen from courses prefixed with *UN* or *GU*:

PHIL UN2101	HISTORY OF PHILOSOPHY I
PHIL UN2201	HISTORY OF PHILOSOPHY II
PHIL UN3411	SYMBOLIC LOGIC

At least one course in either metaphysics or epistemology e.g., PHIL W3960, or a related course to be chosen in consultation with the director of undergraduate studies.

Select at least one course in either ethics or social and political philosophy from the following:

PHIL UN2702	Contemporary Moral Problems
PHIL UN3701	ETHICS
PHIL UN3751	POLITICAL PHILOSOPHY

A related course to be chosen in consultation with the director of undergraduate studies.

PHIL UN3912	SEMINAR
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- Courses taken pass/fail only count towards the major in unusual circumstances.
- Two courses taken in summer sessions can count towards the major.
- In some instances, courses in other departments can count for credit towards the major. For example, the Religion Department offers courses in philosophy of religion, and the Political Science Department offers courses in political philosophy. Questions about whether courses in other departments will count towards the major should be directed to the DUS.
- The Columbia and Barnard Philosophy Departments function together as a unit. The courses specifically designed for Barnard students (first-year and senior seminars) do not count towards the Columbia major. But all other courses in the Columbia-Barnard joint curriculum do count for the major, regardless of whether the instructor is associated with Barnard or Columbia.
- Core classes such as Contemporary Civilization may not count towards the major.

### Joint Major in Economics-Philosophy

- An Introductory course. Most often this will be PHIL UN1010 Methods and Problems of Philosophical Thought.
- PHIL UN3411 Symbolic Logic.
- One 3000-level course in moral, political, or social philosophy. (PHIL UN3701 Ethics satisfies this requirement, as do various other courses offered by the Department from time to time. Consult with the Philosophy adviser if you are in any doubt here.)
- One 3000-level course in epistemology, the philosophy of science, or in the philosophy of one of the particular sciences. (PHIL UN3551 Philosophy of Science and PHIL UN3960 Epistemology both satisfy this requirement, as do various other courses offered by the Department from time to time. Consult with the Philosophy adviser if you are in any doubt here.)
- PHIL GU4561 Probability and Decision Theory.
- ECPH UN4950 Senior Seminar in Economics and Philosophy.



Economics-Philosophy is an interdisciplinary major that, while introducing students to the basic methodologies of economics and philosophy, stresses areas of particular concern to both. These include subjects such as rationality and decision making, justice and efficiency, freedom and collective choice, and the logic of empirical theories and their testing. Many of the issues are dealt with historically, and classic texts of Plato, Kant, Mill, Marx, and Smith are reviewed.

Two advisers are assigned for the interdepartmental major, one in the Department of Economics and one in the Department of Philosophy. Please note that the Economics adviser can only advise on the Economics requirements and the Philosophy adviser can only advise on the Philosophy requirements.

The Economics-Philosophy major requires a total minimum of 54 points: 25 points in Economics, 16 points in Philosophy, 6 points in Mathematics, 3 points in Statistics, and 4 points in the interdisciplinary seminar as follows:

:

#### Economics Core Courses

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS

#### Mathematics Sequence

Select a mathematics sequence

#### Statistics

Select a statistics course

#### Economics Electives

Three electives are required; refer to the Economics section of this bulletin.

#### Philosophy Courses

PHIL UN1010	METHDS/PROB OF PHILOS THOUGHT
PHIL UN3411	SYMBOLIC LOGIC
PHIL UN3701	ETHICS (a social or political philosophy course may be substituted, please consult the Philosophy DUS)
PHIL UN3551 or PHIL UN3960	PHILOSOPHY OF SCIENCE EPISTEMOLOGY
PHIL GU4561	PROBABILITY # DECISION THEORY

#### Seminar

ECPH GU4950	ECONOMICS # PHILOSOPHY (or another seminar in philosophy or economics approved by advisers in both department)
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## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Philosophy

Philosophy, as an academic discipline, has significant points of contact with a wide range of other subjects—in the humanities, the social sciences, and the natural sciences. A concentration in philosophy thus can be an attractive option for many students. Those considering becoming concentrators are strongly encouraged to meet with the director of undergraduate studies early in their sophomore year, in order to discuss their specific interests and to plan their programs of study. All concentrators should consult with the director of undergraduate studies each term before registering for courses.

The concentration requires a minimum of 24 points in philosophy, chosen from courses prefixed with UN or GU. There are no specific courses required for the concentration.

Students may choose courses prefixed with *GR* only with the instructor's permission.

PHIL UN3912 is open to junior and senior concentrators who have taken at least four courses in philosophy.

## PHYSICS

### THE PHYSICS DEPARTMENT:

Department website: <https://www.physics.columbia.edu/>

Office location: 704 Pupin Hall

Office contact: 212-854-3366 (Ashley Delphia, Dir. of Academic Administration)

Director of Undergraduate Studies: Jeremy Dodd, [jrd4@columbia.edu](mailto:jrd4@columbia.edu), 212-854-3969

Undergraduate Administrator: Giuseppina (Joey) Cambareri, [gc2019@columbia.edu](mailto:gc2019@columbia.edu), 212-854-3348

### THE STUDY OF PHYSICS

The physics major offers a rigorous preparation in the intellectual developments of modern physics, along with extensive exposure to the mathematical and experimental techniques required to conduct basic and applied research in physics. For the major, the department offers a set of required courses well-suited to prepare students for the most rigorous course of graduate study. These can be supplemented by elective courses in a variety of advanced topics. Although most majors go on to graduate work in physics, the intellectual skills acquired in the study of



physics can also provide the basis for work in a variety of other scientific and nonscientific areas.

Research is an extremely important component of the Columbia physics experience. Because the department has a very small student-to-faculty ratio, essentially all physics majors and concentrators engage in experimental, computational, or theoretical research under the close supervision of a faculty member during part, if not all, of their time at Columbia.

Current programs of study include:

The Physics major

The Astrophysics major

The Biophysics major

The Chemical Physics major

As of Fall 2024, the Department does not offer a Minor in Physics, however a Minor will likely be introduced for the 2025-2026 academic year.

## STUDENT ADVISING

### Consulting Advisers

Students should contact the Director of Undergraduate Studies (DUS) for all advising questions and concerns, however please see the information below that describes appropriate advising contacts for the interdisciplinary majors in Astrophysics, Biophysics and Chemical Physics.

For the Physics major: Jeremy Dodd, [jrd4@columbia.edu](mailto:jrd4@columbia.edu).

For the Astrophysics major: Jeremy Dodd, [jrd4@columbia.edu](mailto:jrd4@columbia.edu), and students should also consult with the Director of Undergraduate Studies in the Astronomy Department.

For the Biophysics major: students should consult with the Director of Undergraduate Studies for Biophysics in the Biological Sciences Department.

For the Chemical Physics major: students should consult with the Director of Undergraduate Studies in the Chemistry Department.

The Physics DUS typically holds walk-in office hours each week during the academic year (fall and spring semesters), and may be also be contacted by email. For new students, a Physics Department information session is held during NSOP each fall to help students determine which introductory physics sequence is most appropriate for their program of study. Each spring, the Department hosts an Open House, which focuses on the majors offered in the Department but also provides an opportunity to learn more about research opportunities.

For declared Physics and Astrophysics majors, it is recommended that students consult with the Physics DUS at least once per semester.

## Enrolling in Classes

The Physics Department offers four introductory physics sequences.

- PHYSUN1201, PHYSUN1202 primarily for premed students;
- PHYSUN1401, PHYSUN1402, PHYSUN1403 primarily for SEAS engineering students;
- PHYSUN1601, PHYSUN1602, PHYSUN2601 primarily for physics, applied physics and physical science majors;
- PHYSUN2801, PHYSUN2802 primarily for physics and applied physics majors who have advanced placement in physics and mathematics.

The department can provide more detailed information about these sequences. Note that there are calculus prerequisites or co-requisites in most cases. Enrollment in the PHYSUN2801, PHYSUN2802 Accelerated Physics sequence is by placement only. Students who have a score of 5 on AP Calculus BC and a score of at least one 4 and one 5 on the two AP Physics C exams place automatically. Other students should take the placement exam during the NSOP Physics Information Session.

Please note that all of the above sequences start in the fall semester (only) each year, with the addition of just one “off-sequence” (spring, summer) offering of the PHYSUN1201, PHYSUN1202 General Physics sequence for premed students.

## Preparing for Graduate Study

A majority of graduating Physics majors pursue graduate study at either the PhD or Masters levels. The Physics major is designed to provide a strong foundation for students who may continue to pursue a PhD. Aside from all of the required courses for the major, students who will pursue graduate study are recommended to take the PHYSGU4003 Advanced Mechanics elective, and they may also choose to take some graduate level courses if they have sufficient preparation.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Coursework in fulfillment of a major or minor [or special program or concentration] must be taken at Columbia University unless explicitly noted here and/or expressly permitted by the Director of Undergraduate Studies of the program. Exceptions or substitutions permitted by the Director of Undergraduate Studies should be confirmed in writing by email to the student.

## Advanced Placement

The department grants 6 credits for a score of 4 or 5 on BOTH the AP Physics 1 and AP Physics 2 exams, but you are not entitled to any exemptions.

The department grants 3 credits for a score of 4 or 5 on the AP Physics C/MECH exam, but you are not entitled to any exemptions. The amount of credit is reduced to 0 if you take PHYSUN 1001, 1201, 1401 or 1601.

The department grants 3 credits for a score of 4 or 5 on the AP Physics C/E&M exam, but you are not entitled to any exemptions. The amount of credit is reduced to 0 if you take PHYSUN 1001, 1202, 1402 or 1602.

AP, IB or A-level Physics credits are not impacted if you take PHYSUN 2801 or 2802.

Students may earn a maximum of 6 credits in Physics.

## Barnard College Courses

No Barnard courses are accepted as requirements for the Physics major. For the Astrophysics major, see the requirements for that program in the Bulletin.

## Transfer Courses

When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit (e.g., to confirm that the courses will count toward the 124 points of credit that every student is required to complete for the B.A. degree). Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major or minor [or special program or concentration].

All transfer courses proposed for consideration for the Physics major must be reviewed by the Physics DUS. Students should provide detailed syllabi for review.

## Study Abroad Courses

Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Undergraduate Global Engagement and taught by Columbia instructors) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus. If they are not explicitly listed by the department as fulfilling requirements in the major or minor [or special program or concentration], the DUS will need to confirm that they can be used toward requirements in the major/minor.

Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia, and are subject to the same policies as other transfer courses. There will be a limit on the number of courses taken abroad that can be

applied to the major/minor, and they must be approved by the DUS.

Physics and Astrophysics majors who are considering studying abroad should consult with the respective DUSes well in advance, since careful planning is required to make sure that students can complete all required courses.

## Summer Courses

Summer courses at Columbia are offered through the School of Professional Studies. Courses taken in a Summer Term may be used toward requirements for the major/minor only as articulated in department/institute/center guidelines or by permission of the Director(s) of Undergraduate Studies. More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin. No physics courses currently offered in Summer Term are relevant for the Department's majors.

## CORE CURRICULUM CONNECTIONS

Students may be interested in course offerings in this department that can be taken in fulfillment of the Science requirement of the Core Curriculum. See the list of approved courses for the requirement in this *Bulletin*.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

Information to be added

## DEPARTMENT HONORS AND PRIZES

Information to be added

## OTHER IMPORTANT INFORMATION

The department offers a stand-alone one-semester course for nonscience majors, one introductory sequence in physics intended primarily for preprofessional students, and three introductory sequences in physics for engineering and physical science majors. Students are given credit for courses from only one of the different sequence groups.

Mixing courses across the sequences is strongly discouraged; however, physics majors who begin their studies with PHYS UN1401 INTRO TO MECHANICS # THERMO - PHYS UN1402 INTRO ELEC/MAGNETISM # OPTICS should take PHYS UN2601 PHYSICS III:CLASS/QUANTUM WAVE as the third-semester course.

## Introductory Sequences

### Nonscience Majors:

PHYS UN1001      PHYSICS FOR POETS

**Preprofessional Students:**

PHYS UN1201      GENERAL PHYSICS I  
& PHYS UN1202      and GENERAL PHYSICS II

Accompanying laboratory course:

PHYS UN1291      GENERAL PHYSICS I LAB  
& PHYS UN1292      and GENERAL PHYSICS II  
LABORATORY

**Engineering and Physical Science Majors:**

Select one of the following sequences with accompanying laboratory course:

**Sequence A:**

PHYS UN1401      INTRO TO MECHANICS #  
& PHYS UN1402      THERMO  
& PHYS UN1403      and INTRO ELEC/  
MAGNETISM # OPTCS  
and INTRO-CLASSCL #  
QUANTUM WAVES

**Sequence B:**

PHYS UN1601      PHYSICS I:MECHANICS/  
& PHYS UN1602      RELATIVITY  
& PHYS UN2601      and PHYSICS II: THERMO,  
ELEC # MAG  
and PHYSICS III:CLASS/  
QUANTUM WAVE

**Sequence C:**

PHYS UN2801      ACCELERATED PHYSICS I  
& PHYS UN2802      and ACCELERATED  
PHYSICS II

Sequence A is a self-contained group of three courses, while Sequences B and C anticipate more course work in the Physics Department. Students considering a physics major are strongly encouraged to begin one of these sequences in their first year.

**PROFESSORS**

Igor Aleiner  
Boris Altshuler  
Elena Aprile  
Dmitri Bassov  
Andrei Beloborodov  
Allan Blaer (*emeritus*)  
Gustaaf Brooijmans  
Norman Christ  
Brian Cole  
Frederik Denef  
Richard Friedberg (*Barnard emeritus*)  
Brian Greene (Mathematics)  
Miklos Gyulassy (*emeritus*)  
Charles J. Hailey  
Timothy Halpin-Healy (Barnard)  
Sven Hartmann (*emeritus*)  
Tony Heinz (*emeritus*)  
Emlyn Hughes  
Lam Hui  
Laura Kay (Barnard Astronomy)  
Tsung Dao Lee (*emeritus*)

Yuri Levin  
Szabolcs Marka  
Robert Mawhinney (Chair)  
Andrew Millis  
Alfred H. Mueller  
Reshmi Mukherjee (Barnard)  
John Parsons  
Aron Pinczuk (Applied Physics)  
Malvin Ruderman  
Frank Sciulli (*emeritus*)  
Michael Shaevitz  
Michael Tuts  
Yasutomo Uemura  
Erick Weinberg  
William Zajc

**ASSOCIATE PROFESSORS**

Brian Humensky  
Janna Levin (Barnard)  
Brian Metzger  
Alberto Nicolis  
Abhay Pasupathy  
Ozgur Sahin (Biology)  
Tanya Zelevinsky

**ASSISTANT PROFESSORS**

Cory Dean  
Bradley Johnson  
Georgia Karagiorgi  
Rachel Rosen  
Sebastian Will

**SENIOR LECTURER IN DISCIPLINE**

Jeremy Dodd

**ADJUNCT PROFESSOR**

Morgan May

**LECTURER**

Burton Budick  
Eric Raymer

**ON LEAVE**

Amber Miller

**GUIDANCE FOR  
UNDERGRADUATE STUDENTS IN  
THE DEPARTMENT****Program Planning for all Students**

Students who entered Columbia (as first-year students or as transfer students) in or after Fall 2024 may select from a curriculum of majors and minors. The requirements for the Bachelor of Arts degree, and role of majors and

minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Students who entered Columbia in or before Fall 2023 may select from a curriculum of majors and minors and concentrations. The requirements for the Bachelor of Arts degree, and the role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

As of Fall 2024, the Department does not offer a Minor in Physics, however a Minor will likely be introduced for the 2025-2026 academic year.

All students who are considering majoring in Physics or in Astrophysics are strongly encouraged to begin a relevant introductory physics sequence in their first semester. In general, the Physics major may not be completed in fewer than six semesters; most students take seven or eight semesters to satisfy all requirements.

## Course Numbering Structure

Course numbers in the Physics Department broadly follow the standard undergraduate schema. Most introductory (first-year) courses are at the 1000- level, with the exception of the PHYSUN2801, PHYSUN2802 Accelerated Physics sequence. The Physics major in particular is rather well-defined in terms of requirements and when they should/could be taken, given necessary pre-requisites and so is rather “sequential”. Note that there are two required two-semester sequences: PHYSUN3007, PHYSUN3008 and PHYSGU4021, PHYSGU4022, which in general should be taken in the fall and spring of a given academic year.

## Guidance for First-Year Students

All students who are considering majoring in Physics or in Astrophysics are strongly encouraged to begin a relevant introductory physics sequence in their first semester.

The Physics Department offers four introductory physics sequences.

PHYSUN1201, PHYSUN1202 primarily for premed students;

PHYSUN1401, PHYSUN1402, PHYSUN1403 primarily for SEAS engineering students;

PHYSUN1601, PHYSUN1602, PHYSUN2601 primarily for physics, applied physics and physical science majors;

PHYSUN2801, PHYSUN2802 primarily for physics and applied physics majors who have advanced placement in physics and mathematics.

The department can provide more detailed information about these sequences. Note that there are calculus pre-requisites or co-requisites in most cases. Enrollment in the PHYSUN2801, PHYSUN2802 Accelerated Physics sequence is by placement only. Students who have a score of 5 on AP Calculus BC and a score of at least one 4 and one 5 on the two AP Physics C exams place automatically. Other students should take the placement exam during the NSOP Physics Information Session.

Please note that all of the above sequences start in the fall semester (only) each year, with the addition of just one “off-sequence” (spring, summer) offering of the PHYSUN1201, PHYSUN1202 General Physics sequence for premed students.

## Guidance for Transfer Students

Information to be added

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

All programs of study require completion of at least one of the introductory physics sequences (described elsewhere).

### Major in Physics

#### Physics Courses

The major in physics requires a minimum of 41 points in physics courses, including:

#### Introductory Sequences

Select one of the following sequences:

Sequence A: Students with a limited background in high school physics may elect to take:

PHYS UN1401 & PHYS UN1402 & PHYS UN2601	INTRO TO MECHANICS # THERMO and INTRO ELEC/ MAGNETISM # OPTCS and PHYSICS III:CLASS/ QUANTUM WAVE
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Sequence B:

PHYS UN1601 & PHYS UN1602 & PHYS UN2601	PHYSICS I:MECHANICS/ RELATIVITY and PHYSICS II: THERMO, ELEC # MAG and PHYSICS III:CLASS/ QUANTUM WAVE
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Sequence C: Students with advanced preparation in both physics and mathematics may be eligible to take:



PHYS UN2801 & PHYS UN2802	ACCELERATED PHYSICS I and ACCELERATED PHYSICS II
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**Core Physics Courses**

PHYS UN3003	MECHANICS
PHYS UN3007	ELECTRICITY-MAGNETISM
PHYS UN3008	ELECTROMAGNETIC WAVES # OPTICS
PHYS GU4021	QUANTUM MECHANICS I
PHYS GU4022	QUANTUM MECHANICS II
PHYS GU4023	THERMAL # STATISTICAL PHYSICS

**Elective Courses**

Select at least six points of the following courses:

PHYS UN3002	From Quarks To the Cosmos: Applications of Modern Physics
PHYS GU4003	ADVANCED MECHANICS
PHYS GU4011	PARTICLE ASTROPHYS # COSMOLOGY
PHYS GU4018	SOLID STATE PHYSICS
PHYS GU4019	MATHEMATICAL METHODS OF PHYSICS
PHYS GU4040	INTRO TO GENERAL RELATIVITY
PHYS GU4050	Introduction to Particle Physics

With the permission of the Director of Undergraduate Studies, 4000- or 6000-level courses offered in this or other science departments

**Laboratory Work at the Intermediate Level \***

Select one of the following options:

**Option 1:**

PHYS UN3081	INTERMEDIATE LABORATORY WORK (two semesters)
PHYS UN3083	ELECTRONICS LABORATORY

**Option 2:**

PHYS UN3081	INTERMEDIATE LABORATORY WORK (three semesters)
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**Senior Seminar**

PHYS UN3072	SEM IN CURRENT RES. PROBLEMS
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\* Approved experimental work with a faculty research group may satisfy one semester of the laboratory requirement.

**Mathematics Courses**

Calculus through MATH UN1202 CALCULUS IV or MATH UN1208 HONORS MATHEMATICS B; and MATH UN3027 Ordinary Differential Equations or the equivalent.

Recommended cognate courses: MATH UN2010 LINEAR ALGEBRA, MATH UN3007 COMPLEX

VARIABLES, and MATH UN3028 PARTIAL DIFFERENTIAL EQUATIONS.

**Major in Astrophysics**

For astrophysics requirements please see:

<http://bulletin.columbia.edu/columbia-college/departments-instruction/astronomy/#requirementstext>

**Major in Biophysics**

For biophysics requirements please see:

<http://bulletin.columbia.edu/columbia-college/departments-instruction/biological-sciences/#requirementstext>

**Major in Chemical Physics**

For chemical physics requirements please see:

<http://bulletin.columbia.edu/columbia-college/departments-instruction/chemistry/#requirementstext>

**Minor in Physics**

As of Fall 2024, the Department does not offer a Minor in Physics, however a Minor will likely be introduced for the 2025-2026 academic year.

**FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR**

Concentrations are available to students who entered Columbia in or before Fall 2023. The requirements for the Bachelor of Arts degree, and the role of the concentration in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Concentrations are not available to students who entered Columbia in or after Fall 2024.

**Concentration in Physics**

The concentration in physics requires a minimum of 24 points in physics, including one of the introductory sequences.

**POLITICAL SCIENCE  
THE POLITICAL SCIENCE  
DEPARTMENT:**

**Department website:** <http://www.polisci.columbia.edu>  
Office location: 710 International Affairs Building  
Office contact: 212-854-3707



**Director of Undergraduate Studies:** Prof. Shigeo Hirano, 740 International Affairs Building; 212-854-3955; [sh145@columbia.edu](mailto:sh145@columbia.edu)

**Academic Affairs Coordinator:** Owen Mefford, 710 International Affairs Building; 212-854-3707; [obm2106@columbia.edu](mailto:obm2106@columbia.edu)

## THE STUDY OF POLITICAL SCIENCE

The discipline of political science focuses on issues of power and governance and, in particular, on political institutions, both formal and informal. It also focuses on political behavior, political processes, political economy, and state-society relations.

The field consists of four substantive subfields: *American politics*, which covers such topics as national and local politics, elections, and constitutional law; *comparative politics*, which aims at understanding the political systems of other countries, both by studying individual states and by engaging in cross-national comparisons; *international relations*, which deals with the ways that states and other political actors behave in the international arena, including such topics as security, foreign policies, international organizations, and international economic relations; and *political theory*, which analyzes the history of normative political thought as well as of analytic concepts such as the nature of justice or liberty.

Other broad topics, such as “political economy,” or the study of the relationships between economic and political processes, overlap with the subfields, but also constitute a separate program (see below). Methodology, including statistical analysis and formal modeling, also occupies an important place in the discipline.

## STUDENT ADVISING

### Consulting Advisers

Economics-Political Science Advisers:

Economics: Prof. Susan Elmes, Director of Undergraduate Studies, 1006 International Affairs Building; [se5@columbia.edu](mailto:se5@columbia.edu)

Political Science: Prof. Carlo Prato, 718 International Affairs Building; 212-854-3977; [cp2928@columbia.edu](mailto:cp2928@columbia.edu)

Political Science-Statistics Advisers:

Political Science: Prof. Andrew Gelman, 1255 Amsterdam Ave., Room 1016; 212-851-2164; [gelman@stat.columbia.edu](mailto:gelman@stat.columbia.edu)

Statistics: Prof. Ronald Neath, 612 West 115th Street, Room 612; 212-853-1398; [rcn2112@columbia.edu](mailto:rcn2112@columbia.edu)

Statistics: Prof. Gabriel Young, 612 West 115th Street, Room 614; 212-853-1395; [gjy2107@columbia.edu](mailto:gjy2107@columbia.edu)

The Department of Political Science offers a variety of advising resources to provide undergraduate majors

and minors with the information and support needed to successfully navigate through the program. These resources are described below.

### Undergraduate Advising

The department trains and employs political science Ph.D. candidates who advise undergraduate students regarding program requirements, course selection, and transfer and study-abroad credits. The advisers are also available to discuss research interests, internships, and post-college plans.

Students can reach the advisers by email at [polisciadvicing@columbia.edu](mailto:polisciadvicing@columbia.edu).

### Requesting a Faculty Adviser

Students may request a faculty adviser by completing the Faculty Adviser Request Form and submitting it during the first two weeks of the semester. The link to the current adviser request form may be found in the undergraduate forms library on the department website.

Students may consult with their faculty adviser for any substantive issue, but the graduate-student advisers must approve planning forms and confirm that requirements have been fulfilled.

### Director of Undergraduate Studies

The director of undergraduate studies oversees the department's undergraduate programs and is available during office hours. While a student's first stop for advising should be the graduate-student advisers, the director of undergraduate studies is available as an additional resource.

### Economics–Political Science Adviser

Economics–political science majors may consult with the economics-political science adviser during office hours. However, students should also see a graduate-student adviser to discuss major requirements and confirm that requirements have been fulfilled.

### Political Science–Statistics Adviser

Political science–statistics majors may consult with the political science–statistics adviser during office hours. However, students should also see a graduate-student adviser to discuss major requirements and confirm that requirements have been fulfilled.

## Enrolling in Classes

Most undergraduate level courses in political science can be registered for by students at any level. However, seminars, which are smaller, more intensive discussion-based courses centered around a unifying theme or topic, require students to join a waitlist and then receive instructor approval to enroll. This is done to ensure that students in the major most in need of these seminars to fulfill their

graduation requirements have priority to access them. Further information on seminars can be found on their page on the department website.

Additionally, undergraduate students may not register directly in SSOL for courses offered in the Graduate School of Arts and Sciences, which are designated by the prefix "GR." However, qualified students may cross-register for GSAS courses, with instructor permission, following steps outlined on the relevant page on the department website.

## Preparing for Graduate Study

Students interested in graduate study offered by the Department of Political Science should consult the department website's resources on graduate programs, which include M.A., B.A./M.A., and Ph.D. programs. Additionally, the graduate-student advisers can offer advice about and help with graduate school applications.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The department grants credit toward the major for work completed under the College Entrance Examination Board (CEEB) Advanced Placement Program. Students receive 3 academic credits and exemption from POLS UN1201 INTRO TO AMERICAN POLITICS or POLS UN1501 INTRO TO COMPARATIVE POLITICS for scores of 5 in the United States and Comparative Government and Politics AP Exams.

### Barnard College Courses

Barnard College courses may fulfill Columbia major requirements; however, Barnard courses do not follow the Columbia numbering system and cannot be used to determine the subfield within which a course falls. Barnard colloquia are open to students with the permission of the instructor; however, Barnard colloquia may not be used to fulfill the seminar requirement, though they may be used to fulfill subfield or elective requirements. Note that admission to Barnard colloquia is by application to the Barnard Political Science Department only. Please consult with the Barnard Political Science Department for more information.

### Transfer Courses

For the political science major, a maximum of three courses in political science may be transferred from other institutions, including study abroad and AP credit. For the economics-political science and political science-statistics interdisciplinary majors, a maximum of two courses in political science may be transferred from other institutions. For the political science minor, a maximum of one course in political science may be transferred from other institutions. All transfer credits must be approved in writing by the Director of Undergraduate Studies or the graduate-student

advisers. Students wishing to count transfer credits toward the major or minor should send the graduate-student advisers their transfer credit report, the syllabi of the courses they want to count toward departmental requirements, and a statement of how they want to apply the transfer credits to the requirements.

## Study Abroad Courses

Study abroad programs are one way students can enrich their Columbia education by spending time immersed in other places and cultures. However, for counting study abroad courses for credit toward a political science major or minor, students should consult the above guidance on transfer courses.

## Summer Courses

Political Science (POLS) summer courses taken through the School of Professional Studies are eligible to count towards the major or minor.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

All majors write a research paper in two seminars or in the Honors Seminar. Seminars are small, discussion-based courses focused on a research topic in political science. Each semester the department offers a wide range of seminars in each subfield. Students are expected to attend and participate in these courses, as well as to write an original research paper. Some students will write a senior thesis in the Honors Seminar. Details about writing a senior thesis are below.

### Senior Thesis Coursework and Requirements

Students may elect to write a thesis for consideration for departmental honors as described below.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

The department offers an honors program for a limited number of seniors who want to undertake substantial research projects and write honors theses. The honors thesis is expected to be about 75 pages in length and of exceptional quality.

Honors students perform research as part of a full-year honors seminar (POLS UN3998-POLS UN3999, 8 points total) during their senior year, in place of the seminar requirement for majors. Honors students may, however, take additional seminars to fulfill other course requirements for the major. Theses are due in late March or early April. To be awarded departmental honors, the student must satisfy all the

requirements for the major, maintain a 3.6 GPA in the major, and complete a thesis of sufficiently high quality to merit honors.

The honors seminar director provides general direction for the seminar and supervises all students. Each student also works with a faculty member in his or her major subfield (American politics, comparative politics, international relations, or political theory) and a teaching assistant. The honors seminar meets weekly for part of the year and addresses general issues involved in research and thesis writing, such as how to develop research questions and projects, methodology, sources of evidence, and outlining and drafting long papers. The sessions are also used for group discussions of students' research and thesis presentations. Students are also expected to meet periodically with the supervising professor and preceptor.

Students who wish to apply to the Honors Seminar must notify the department in writing by the end of the spring semester of the junior year. Please check the department website for the official deadline. Normally no more than 10% of graduating majors receive departmental honors in a given academic year. Applicants are required to have already completed the methods requirement for the major.

In addition, students are encouraged to find a faculty sponsor for their thesis proposal. Research areas for the political science department faculty are listed on the department's website.

Students who are not accepted into the honors seminar or who decide after the application deadline that they would like to write an honors thesis may take one or two semesters POLS UN3901 Independent Research I and POLS UN3902 Independent Research II in order to write a thesis to submit for honors consideration. Any member of the department's full-time faculty may sponsor independent study courses. Part-time faculty are not obligated to sponsor these courses.

Students who choose this path must also complete all the requirements for the major and maintain a minimum major GPA of 3.6. Theses are due in late March or early April, and decisions about departmental honors are announced in May.

## Academic Prizes

The Department of Political Science administers the following prizes and awards. Unless otherwise noted, students do not play an active part in the nomination process. Rather, faculty members nominate students at their own discretion. Departmental prizes are reserved for political science majors.

### Charles A. Beard Prize

A cash prize awarded every other year to the student who writes the best paper in political science during the academic year.

### Caroline Phelps Stokes Prize

A cash prize established at the bequest of Caroline Phelps Stokes is awarded to a student who has been a degree candidate at Columbia College or Barnard College for at least one academic year, and who has written the best essay in course or seminar work on the general subject of human rights.

### Allan J. Willen Memorial Prize

A cash prize awarded to the Columbia College student who writes the best seminar paper on a contemporary American political problem.

### Edwin Robbins Academic Research/Public Service Fellowship

The Robbins Fellowship provides a stipend each summer for at least two political science students in Columbia College who will be engaged in research in important matters of politics or policymaking or who will be working, without other compensation, as interns in a governmental office, agency, or other public service organization. Each spring, the department invites students to submit fellowship proposals. Awards are announced in late April or early May.

### Arthur Ross Foundation Award for Excellence in Political Science

A cash prize awarded to the GS senior with an outstanding record of accomplishment in the study of political science at Columbia.

### Phyllis Stevens Sharp Fellowship in American Politics

The Phyllis Stevens Sharp Endowment Fund provides stipends each year during the summer for one or more Columbia College or School of General Studies students majoring in political science to support research in American politics or policy making, or otherwise uncompensated internships in a government office, agency, or other public service organization. Each spring, the department invites students to submit fellowship proposals. Awards are announced in late April or early May.

## OTHER INFORMATION

### Early Admission to the Master's Degree Program in Political Science for Columbia and Barnard Political Science Undergraduates

While the Department of Political Science does not offer a joint bachelor of arts/master's degree, it does allow Columbia and Barnard undergraduates to apply for early admission to its master's degree program.

Students should apply during the fall semester of their senior year for admission to the M.A. program in the following

fall semester, after completion of the B.A. degree. The department and the Graduate School of Arts and Sciences may award up to one-half residence unit of advanced standing and/or up to three courses (nine to twelve credits) of transfer credit for graduate courses (4000-level and above) taken at Columbia in excess of the requirements for the Columbia bachelor's degree, as certified by the dean of the undergraduate school awarding the bachelor's degree.

For further information about the application process and minimum qualifications for early admission, please contact the director of undergraduate studies.

For further information about requirements for the M.A. degree, see <https://gsas.columbia.edu/degree-programs/ma-programs/political-science>.

## PROFESSORS

Jagdish Bhagwati (also Economics)  
 Allison Carnegie  
 Alessandra Casella (also Economics)  
 Jean L. Cohen  
 Michael Doyle (University Professor)  
 Robert Erikson  
 Virginia Page Fortna  
 Timothy Frye  
 Ester Fuchs (School of International and Public Affairs)  
 Andrew Gelman (also Statistics)  
 Donald P. Green  
 Bernard Harcourt (Law)  
 Fredrick Harris  
 Shigeo Hirano  
 John Huber  
 David C. Johnston  
 Ira Katznelson (also History)  
 Sudipta Kaviraj (Middle Eastern, South Asian, and African Studies)  
 Jeffrey Lax  
 Mahmood Mamdani (Anthropology)  
 Karuna Mantena  
 M. Victoria Murillo (also School of International and Public Affairs)  
 Andrew J. Nathan  
 Sharyn O'Halloran (also School of International and Public Affairs)  
 Justin Phillips (Chair)  
 Robert Y. Shapiro  
 Jack Snyder  
 Michael Ting (also School of International and Public Affairs)  
 Nadia Urbinati  
 Gregory Wawro  
 Andreas Wimmer (also Sociology)  
 Keren Yarhi-Milo (also School of International and Public Affairs)

## ASSOCIATE PROFESSORS

Sarah Daly  
 Alexander W. Hertel-Fernandez (also School of International and Public Affairs)  
 Turkuler Isiksel  
 Kimuli Kasara  
 John Marshall  
 Carlo Prato

## ASSISTANT PROFESSORS

Jonathan E. Collins (also Teachers College)  
 Naoki Egami  
 Nikhar Gaikwad  
 Junyan Jiang  
 Eunji Kim  
 Daniel Luban  
 Andrew McCall  
 Tamar Mitts (also School of International and Public Affairs)  
 Calvin Thrall  
 Yamil Velez

## VISITING PROFESSOR

Kenneth M. McElwain

## LECTURERS

Yujin Choi  
 Tenzin Dorjee  
 Jacqueline C. Dugard  
 Nathan Feldman  
 Kevin Funk  
 Elise Giuliano  
 Tsveta Petrova  
 Chiara Superti

## ON LEAVE

Prof. O'Halloran (2024-25)  
 Profs. Egami, Huber, Shapiro, Urbinati, and Dr. Funk (*Fall 2024*)  
 Profs. Frye, Luban, and Dr. Giuliano (*Spring 2025*)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students (policies)

Major Planning forms are available on the [department website](#).

### Policy on Double-Counting Courses

- Policies about double-counting courses to fulfill requirements in more than one major may be found here:



- [Columbia College](#)
- [School of General Studies](#)
- Courses in the Core Curriculum do not fulfill requirements for the Political Science major.

### **Policy on Counting Credits outside the Department of Political Science**

- Courses taken at other institutions or other Columbia departments may not be used to meet the requirement of a major or minor in political science without the approval of the Director of Undergraduate Studies or the department's undergraduate adviser. Students should secure such approval in advance of registration.

### **Pass/D/Fail and Grading Policy**

- Students may use the Pass/D/Fail grading option for only the first course taken in the Department of Political Science.
  - The course used to fulfill the research methods requirement cannot be taken Pass/D/Fail.
- Students must receive a grade of at least C- in order for a course to count towards the major or concentration.

### **AP Credit Policy**

- Students who receive transfer credit for one or more AP exams in political science may count a maximum of one AP course toward the major or minor, contingent upon completing an upper-level (3000 or higher) course with a grade of C or higher in the subfield in which the AP exam was taken. All transfer credits must be approved by the Director of Undergraduate Studies or the [undergraduate adviser \(polisciadvise@columbia.edu\)](mailto:polisciadvise@columbia.edu).

### **Transfer Credit Policy**

- For the political science major, a maximum of three courses in political science may be transferred from other institutions, including study abroad and AP credit. For the economics-political science and political science-statistics interdisciplinary majors, a maximum of two courses in political science may be transferred from other institutions. For the political science minor, a maximum of one course in political science may be transferred from other institutions. All transfer credits must be approved in writing by the Director of Undergraduate Studies or the graduate-student advisers.
- Students wishing to count transfer credits toward the major or minor should send the graduate-student advisers their transfer credit report, the syllabi of the courses they want to count toward departmental requirements, and a

statement of how they want to apply the transfer credits to the requirements.

### **Independent Study Policy**

- Independent Study (POLS UN3901 INDEPENDENT RESEARCH I in the fall or POLS UN3902 INDEPENDENT RESEARCH II in the spring) taken in fulfillment of course requirements for the major/minor must be taken for at least 3 points of credit.

### **Program Planning for all Students**

To be planned with the department as soon as the student starts to register for courses toward the major. Students should not wait until they formally declare the major before meeting with an undergraduate adviser during the registration period to plan their programs for the major.

### **Course Numbering Structure**

The department's course number scheme helps students identify at a glance the level, type, and subfield of a particular course.

### **Prefixes and Course Levels**

The prefix and first digit of the course number indicates the level of the course.

- UN: courses numbered 1000-3999 are for undergraduates only
- GU: mixed level courses numbered 4000-4999 are open to both undergraduates and graduate students
- GR: courses numbered 5000-9999 are for graduate students

Undergraduates may register for courses designated with a GR prefix by [following the instructions for cross-registration](#).

### **Course Numbers and Subfields**

Course distribution requirements for both undergraduate and graduate political science programs include depth and breadth with regard to subfields in the discipline. With the exception of undergraduate seminars, the second digit of course numbers indicates the subfield of the course content. Undergraduate seminars are numbered in the UN39xx series, with the third digit indicating subfield.

### **Number Scheme for UN Lecture Courses**

- X1XX: political theory
- X2XX: American politics
- X5XX: comparative politics



- X6XX: international relations
- X7XX: methodology

### Number Scheme for Undergraduate Seminars

Undergraduate seminars are numbered "UN 39xx." The third digit of the course number indicates subfield.

- All sections of 3911 are seminars in political theory.
- All sections of 3921 are seminars in American politics.
- All sections of 3951 3952 are seminars in comparative politics.
- All sections of 3961 3962 are seminars in international relations.

### Number Scheme for GU and GR Courses

For courses numbered GU4000-4999 and GR5000-9999, the second digit indicates subfield as follows:

- X1XX: political theory
- X2XX: American politics
- X4XX: comparative politics
- X7XX: methodology (see further detail about the scheme for methods courses below)
- X8XX: international relations

### Number Scheme for Graduate Field Survey Courses

All graduate field surveys are numbered at the 6000 level, and are the only 6000-level courses the department offers.

- GR 6101: Issues in Political Theory
- GR 6210-6211: Issues and Debates in American Politics
- GR 6411-6412: Comparative Politics Survey I and II
- GR 6801: Theories of International Relations

### Number Scheme for Methodology Courses

Methods courses may be offered as UN, GU, or GR courses at any level. Their second digit is 7. The third digit in the course number indicates the type of methodology covered in the course.

- X70X: basic tools (math and methods of inquiry)
- X71X: introductory statistics
- X73X: game theory
- X76X: applied empirical methods
- X78X: qualitative methods

- X79X: advanced statistics

### Guidance for First-Year Students

Our [Considering a Political Science Major](#) page has answers to common questions new students may have about the program. The department website also contains plenty of helpful information about advising, placement, course planning, opportunities in the department, and more. If you are interested in studying political science, then it is strongly recommended that you read through the information available there, as well as considering the different available [fields of study](#).

### Guidance for Transfer Students

Our [Considering a Political Science Major](#) page has answers to common questions transfer students may have about the program. The department website also contains plenty of helpful information about advising, placement, course planning, opportunities in the department, and more. If you are interested in studying political science, then it is strongly recommended that you read through the information available there, as well as considering the different available [fields of study](#).

After familiarizing themselves with the political science program, transfer students should consider submitting a transfer credit request for political science courses taken at their previous institution. Further information about counting transfer credits can be found in the requirements sections in this bulletin or on the department website.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in Political Science

#### Course Requirements

Students must choose a **Primary Subfield** and a **Secondary Subfield** to study. The subfields are as follows:

- American Politics (AP)
- Comparative Politics (CP)
- International Relations (IR)
- Political Theory (PT)

The major in political science requires a minimum of 9 courses in political science, to be distributed as follows:

#### Introductory Courses

Students must take two of the following introductory courses:

POLS UN1201	INTRO TO AMERICAN POLITICS
POLS UN1501	INTRO TO COMPARATIVE POLITICS
POLS UN1601	INTERNATIONAL POLITICS

**POLS UN1101 POLITICAL THEORY I**

NOTE: Introductory courses taken that do not fit into the Primary or Secondary Subfield will be counted in the Political Science Elective category.

**Primary Subfield**

Minimum three courses.

**Minor Subfield**

Minimum two courses.

**Seminars**

Two 4-point 3000-level seminars, at least one of which is in the student's Primary Subfield.

(See "Seminars" section below for more information)

**Research Methods\***

Minimum one course in research methods. Courses that satisfy the research methods requirement are:

POLS UN3220	LOGIC OF COLLECTIVE CHOICE
POLS UN3289	Media and Data in American Politics
POLS UN3704	RESEARCH DESIGN: DATA ANALYSIS
POLS UN3720	RESEARCH DESIGN: SCOPE AND METHODS
POLS UN3706	EMPIRICAL RESEARCH METHODS IN POLITICAL SCIENCE
POLS UN3768	Experimental Research
POLS GU4710	PRINC OF QUANT POL RESEARCH 1
POLS GU4712	PRINC OF QUANT POL RESEARCH 2
POLS GU4716	Data Science for Political Analytics
POLS GU4720	QUANT METH 1 APPL REG CAUS INF
POLS GU4722	QUANT METH 2 STAT THEO #CAUS INF
POLS GU4724	QUANT METH 3 EXPERIMENTAL METH
POLS GU4726	QUANT METH 4 TOPICS IN METHODS
POLS GU4762	Politics in the Lab
POLS GU4764	Design and Analysis of Sample Surveys
POLS GU4790	Advanced Topics in Quantitative Research
POLS GU4792	Quantitative Methods: Research Topics

**Political Science Electives**

Minimum one course (in any subfield).

\* Students must complete the methods requirement by the end of the junior year. A student may fulfill the research methods requirement with another course inside or outside the department only with the advance written permission of the Director of Graduate Studies or the department's

undergraduate adviser. If a course outside the Department of Political Science is used to satisfy the research methods requirement, this same course cannot be used to fulfill requirements of another major, concentration or program.

**Seminars**

Students are expected to take two 3000-level 4-point seminars. They may choose from among the seminars offered, though at least one of the seminars taken must be in the student's Primary Subfield (that in which at least 9 other points have been completed). Entry into seminars requires the instructor's permission.

For detailed seminar registration guidelines, see [the department website](#). Seminars cannot be taken for R credit or Pass/D/Fail.

Barnard colloquia are open to students with the permission of the instructor. However, Barnard colloquia may **not** be used to fulfill the seminar requirement, though they may be used to fulfill subfield or elective requirements. Note that admission to Barnard colloquia is by application to the Barnard Political Science Department only. Please consult with the Barnard Political Science Department for more information.

**Major in Economics–Political Science**

The major in economics-political science is an interdisciplinary major that introduces students to the methodologies of economics and political science and stresses areas of particular concern to both. This program is particularly beneficial to students planning to do graduate work in schools of public policy and international affairs.

Two advisers are assigned for the interdepartmental major, one in the Department of Economics and one in the Department of Political Science. Please note that the economics adviser can only advise on economics requirements and the political science adviser can only advise on political science requirements.

**Course Requirements**

For the political science part of the major, students must choose a **Primary Subfield** and a **Secondary Subfield** to study. The corresponding introductory courses in both subfields must be taken, plus two electives in the Primary Subfield and one in the Secondary Subfield. The subfields are as follows:

- American Politics (AP)
- Comparative Politics (CP)
- International Relations (IR)
- Political Theory (PT)

The economics–political science major requires a total of 59 points: 22 points in economics, 17 points in political science,

6 points in mathematics, 6 points in statistical methods, 4 points in a political science seminar, and 4 points in the interdisciplinary seminar as follows:

#### Core Requirements in Economics

Students must take all of the following core economics courses:

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS
or POLS GU4712	PRINC OF QUANT POL RESEARCH 2
ECON GU4370	POLITICAL ECONOMY

#### Core Requirements in Mathematics and Statistics

Students must take all of the following core mathematics and statistics courses:

MATH UN1101	CALCULUS I
MATH UN1201	CALCULUS III
STAT UN1201	CALC-BASED INTRO TO STATISTICS

#### Economics Electives

Students must take two electives at the 3000 level or higher in the Department of Economics.

#### Political Science Courses

Students must choose a Primary Subfield and a Secondary Subfield to study. The subfields are as follows: American Politics (AP), Comparative Politics (CP), International Relations (IR), and Political Theory (PT).

Primary Subfield: Minimum three courses, one of which must be the subfield's introductory course.

Secondary Subfield: Minimum two courses, one of which must be the subfield's introductory course.

#### Seminars

Students must take the following two seminars:

ECPS GU4921	SEMINAR IN POLITICAL ECONOMICS
POLS UN3911	SEMINAR IN POLITICAL THEORY
POLS UN3921	AMERICAN POLITICS SEMINAR
POLS UN3951	COMPARATIVE POLITICS SEMINAR
POLS UN3961	INTERNATIONAL POLITICS SEMINAR

\* Students who wish to count toward the political science seminar requirement a course that is not in the above list of approved seminars must obtain permission from the political science Director of Undergraduate studies.

Barnard colloquia may not be used to fulfill the seminar requirement. Note that admission to Barnard colloquia is by application to the Barnard political science department only.

### Major in Political Science–Statistics

The interdepartmental major of political science–statistics is designed for students who desire an understanding of political science to pursue advanced study in this field and who also wish to have at their command a broad range of sophisticated statistical tools to analyze data related to social science and public policy research.

Students should be aware of the rules regarding the use of the Pass/D/Fail option. Courses in which a grade of D has been received do not count toward the major requirements.

Political science–statistics students are eligible for all prizes reserved for political science majors.

The political science–statistics major requires a minimum of 15 courses in political science, statistics, and mathematics, to be distributed as follows:

#### POLITICAL SCIENCE

##### Primary Subfield

-Students must choose a Primary Subfield to study. Within the subfield, students must take a minimum of three courses, including the subfield's introductory course. The subfields and their corresponding introductory courses are as follows:

##### American Politics:

POLS UN1201	INTRO TO AMERICAN POLITICS
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##### Comparative Politics:

POLS UN1501	INTRO TO COMPARATIVE POLITICS
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##### International Relations:

POLS UN1601	INTERNATIONAL POLITICS
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##### Political Theory:

POLS UN1101	POLITICAL THEORY I
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-Additionally, students must take one 4-point 3000-level seminar in their Primary Subfield.

##### Research Methods

-Students must take the following two research methods courses:

POLS GU4710	PRINC OF QUANT POL RESEARCH 1
or POLS UN3704	RESEARCH DESIGN: DATA ANALYSIS
POLS GU4712	PRINC OF QUANT POL RESEARCH 2

#### STATISTICS

-Students must take one of the following sequences:

Sequence A — recommended for students preparing for graduate study in statistics <sup>1</sup>

MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II
MATH UN2010	LINEAR ALGEBRA
STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS
STAT GU4206	STAT COMP # INTRO DATA SCIENCE

or

Sequence B — recommended for students preparing to apply statistical methods to other fields

STAT UN1101	INTRODUCTION TO STATISTICS
STAT UN2102	Applied Statistical Computing
STAT UN2103	APPLIED LINEAR REG ANALYSIS
STAT UN2104	APPL CATEGORICAL DATA ANALYSIS
STAT UN3105	APPLIED STATISTICAL METHODS
STAT UN3106	APPLIED MACHINE LEARNING

#### Statistics Elective

-Students must take an approved elective in a statistics or a quantitatively oriented course in a social science.

- <sup>1</sup>. Students taking Statistics Sequence A may replace the mathematics requirements with both MATH UN1207 HONORS MATHEMATICS A and MATH UN1208 HONORS MATHEMATICS B.

## Minor in Political Science

### Course Requirements

The minor in political science requires a minimum of 5 courses in political science, to be distributed as follows:

#### Introductory Courses

Students must take two of the following introductory courses:

POLS UN1201	INTRO TO AMERICAN POLITICS
POLS UN1501	INTRO TO COMPARATIVE POLITICS
POLS UN1601	INTERNATIONAL POLITICS
POLS UN1101	POLITICAL THEORY I

#### Political Science Electives

Minimum three courses (in any subfield)

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Political Science

#### Program of Study

To be planned with the department as soon as the student starts to register for courses toward the concentration. Students should not wait until they formally declare the concentration before meeting with an undergraduate adviser during the registration period to plan their programs for the concentration.

#### Concentration Requirements

Students must choose a **Primary Subfield** and a **Secondary Subfield** to study. The subfields are as follows:

- American Politics (AP)
- Comparative Politics (CP)
- International Relations (IR)
- Political Theory (PT)

The concentration in political science requires a minimum of 7 courses in political science, to be distributed as follows:

#### Introductory Courses

Students must take two of the following introductory courses:

POLS UN1201	INTRO TO AMERICAN POLITICS
POLS UN1501	INTRO TO COMPARATIVE POLITICS
POLS UN1601	INTERNATIONAL POLITICS
POLS UN1101	POLITICAL THEORY I

NOTE: Introductory courses taken that do not fit into the Primary or Secondary Subfield will be counted in the Political Science Elective category.

#### Primary Subfield

Minimum two courses.

#### Secondary Subfield

Minimum two courses.

#### Research Methods \*

Minimum one course in research methods. Courses that satisfy the methods requirement are:

POLS UN3220	LOGIC OF COLLECTIVE CHOICE
POLS UN3289	Media and Data in American Politics
POLS UN3704	RESEARCH DESIGN: DATA ANALYSIS
POLS UN3706	EMPIRICAL RESEARCH METHODS IN POLITICAL SCIENCE
POLS UN3720	RESEARCH DESIGN: SCOPE AND METHODS

POLS UN3768	Experimental Research
POLS GU4710	PRINC OF QUANT POL RESEARCH 1
POLS GU4712	PRINC OF QUANT POL RESEARCH 2
POLS GU4720	QUANT METH 1 APPL REG CAUS INF
POLS GU4722	QUANT METH 2 STAT THEO #CAUS INF
POLS GU4724	QUANT METH 3 EXPERIMENTAL METH
POLS GU4726	QUANT METH 4 TOPICS IN METHODS
POLS GU4762	Politics in the Lab
POLS GU4764	Design and Analysis of Sample Surveys
POLS GU4790	Advanced Topics in Quantitative Research
POLS GU4790	Advanced Topics in Quantitative Research
POLS GU4792	Quantitative Methods: Research Topics

**Political Science Electives**

Minimum two courses (in any subfield).

\* Students must complete the methods requirement by the end of the junior year. A student may fulfill the research methods requirement with another course inside or outside the department only with the advance written permission of the Director of Graduate Studies or the department's undergraduate adviser. If a course outside the Department of Political Science is used to satisfy the research methods requirement, this same course cannot be used to fulfill requirements of another major, concentration or program.

## POLITICAL SCIENCE- STATISTICS

### THE POLITICAL SCIENCE DEPARTMENT:

**Department website:** <http://www.polisci.columbia.edu>

Office location: 710 International Affairs Building

Office contact: 212-854-3707

**Director of Undergraduate Studies:** Prof. Shigeo Hirano, 740 International Affairs Building; 212-854-3955; [sh145@columbia.edu](mailto:sh145@columbia.edu)

**Academic Affairs Coordinator:** Owen Mefford, 710 International Affairs Building; 212-854-3707; [obm2106@columbia.edu](mailto:obm2106@columbia.edu)

## THE STUDY OF POLITICAL SCIENCE

The discipline of political science focuses on issues of power and governance and, in particular, on political institutions, both formal and informal. It also focuses on political behavior, political processes, political economy, and state-society relations.

The field consists of four substantive subfields: *American politics*, which covers such topics as national and local politics, elections, and constitutional law; *comparative politics*, which aims at understanding the political systems of other countries, both by studying individual states and by engaging in cross-national comparisons; *international relations*, which deals with the ways that states and other political actors behave in the international arena, including such topics as security, foreign policies, international organizations, and international economic relations; and *political theory*, which analyzes the history of normative political thought as well as of analytic concepts such as the nature of justice or liberty.

Other broad topics, such as “political economy,” or the study of the relationships between economic and political processes, overlap with the subfields, but also constitute a separate program (see below). Methodology, including statistical analysis and formal modeling, also occupies an important place in the discipline.

## STUDENT ADVISING

### Consulting Advisers

Economics-Political Science Advisers:

Economics: Prof. Susan Elmes, Director of Undergraduate Studies, 1006 International Affairs Building; [se5@columbia.edu](mailto:se5@columbia.edu)

Political Science: Prof. Carlo Prato, 718 International Affairs Building; 212-854-3977; [cp2928@columbia.edu](mailto:cp2928@columbia.edu)

Political Science-Statistics Advisers:

Political Science: Prof. Andrew Gelman, 1255 Amsterdam Ave., Room 1016; 212-851-2164; [gelman@stat.columbia.edu](mailto:gelman@stat.columbia.edu)

Statistics: Prof. Ronald Neath, 612 West 115th Street, Room 612; 212-853-1398; [rcn2112@columbia.edu](mailto:rcn2112@columbia.edu)

Statistics: Prof. Gabriel Young, 612 West 115th Street, Room 614; 212-853-1395; [gjy2107@columbia.edu](mailto:gjy2107@columbia.edu)

The Department of Political Science offers a variety of advising resources to provide undergraduate majors and minors with the information and support needed to successfully navigate through the program. These resources are described below.

### Undergraduate Advising

The department trains and employs political science Ph.D. candidates who advise undergraduate students regarding



program requirements, course selection, and transfer and study-abroad credits. The advisers are also available to discuss research interests, internships, and post-college plans.

Students can reach the advisers by email at [polisciadvising@columbia.edu](mailto:polisciadvising@columbia.edu).

### **Requesting a Faculty Adviser**

Students may request a faculty adviser by completing the Faculty Adviser Request Form and submitting it during the first two weeks of the semester. The link to the current adviser request form may be found in the undergraduate forms library on the department website.

Students may consult with their faculty adviser for any substantive issue, but the graduate-student advisers must approve planning forms and confirm that requirements have been fulfilled.

### **Director of Undergraduate Studies**

The director of undergraduate studies oversees the department's undergraduate programs and is available during office hours. While a student's first stop for advising should be the graduate-student advisers, the director of undergraduate studies is available as an additional resource.

### **Economics–Political Science Adviser**

Economics–political science majors may consult with the economics–political science adviser during office hours. However, students should also see a graduate-student adviser to discuss major requirements and confirm that requirements have been fulfilled.

### **Political Science–Statistics Adviser**

Political science–statistics majors may consult with the political science–statistics adviser during office hours. However, students should also see a graduate-student adviser to discuss major requirements and confirm that requirements have been fulfilled.

## **Enrolling in Classes**

Most undergraduate level courses in political science can be registered for by students at any level. However, seminars, which are smaller, more intensive discussion-based courses centered around a unifying theme or topic, require students to join a waitlist and then receive instructor approval to enroll. This is done to ensure that students in the major most in need of these seminars to fulfill their graduation requirements have priority to access them. Further information on seminars can be found on their page on the department website.

Additionally, undergraduate students may not register directly in SSOL for courses offered in the Graduate School of Arts and Sciences, which are designated by the prefix "GR." However, qualified students may cross-register for

GSAS courses, with instructor permission, following steps outlined on the relevant page on the department website.

## **Preparing for Graduate Study**

Students interested in graduate study offered by the Department of Political Science should consult the department website's resources on graduate programs, which include M.A., B.A./M.A., and Ph.D. programs. Additionally, the graduate-student advisers can offer advice about and help with graduate school applications.

## **COURSEWORK TAKEN OUTSIDE OF COLUMBIA**

### **Advanced Placement**

The department grants credit toward the major for work completed under the College Entrance Examination Board (CEEB) Advanced Placement Program. Students receive 3 academic credits and exemption from POLS UN1201 INTRO TO AMERICAN POLITICS or POLS UN1501 INTRO TO COMPARATIVE POLITICS for scores of 5 in the United States and Comparative Government and Politics AP Exams.

### **Barnard College Courses**

Barnard College courses may fulfill Columbia major requirements; however, Barnard courses do not follow the Columbia numbering system and cannot be used to determine the subfield within which a course falls. Barnard colloquia are open to students with the permission of the instructor; however, Barnard colloquia may not be used to fulfill the seminar requirement, though they may be used to fulfill subfield or elective requirements. Note that admission to Barnard colloquia is by application to the Barnard Political Science Department only. Please consult with the Barnard Political Science Department for more information.

### **Transfer Courses**

For the political science major, a maximum of three courses in political science may be transferred from other institutions, including study abroad and AP credit. For the economics–political science and political science–statistics interdisciplinary majors, a maximum of two courses in political science may be transferred from other institutions. For the political science minor, a maximum of one course in political science may be transferred from other institutions. All transfer credits must be approved in writing by the Director of Undergraduate Studies or the graduate-student advisers. Students wishing to count transfer credits toward the major or minor should send the graduate-student advisers their transfer credit report, the syllabi of the courses they want to count toward departmental requirements, and a statement of how they want to apply the transfer credits to the requirements.

## Study Abroad Courses

Study abroad programs are one way students can enrich their Columbia education by spending time immersed in other places and cultures. However, for counting study abroad courses for credit toward a political science major or minor, students should consult the above guidance on transfer courses.

## Summer Courses

Political Science (POLS) summer courses taken through the School of Professional Studies are eligible to count towards the major or minor.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

All majors write a research paper in two seminars or in the Honors Seminar. Seminars are small, discussion-based courses focused on a research topic in political science. Each semester the department offers a wide range of seminars in each subfield. Students are expected to attend and participate in these courses, as well as to write an original research paper. Some students will write a senior thesis in the Honors Seminar. Details about writing a senior thesis are below.

### Senior Thesis Coursework and Requirements

Students may elect to write a thesis for consideration for departmental honors as described below.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

The department offers an honors program for a limited number of seniors who want to undertake substantial research projects and write honors theses. The honors thesis is expected to be about 75 pages in length and of exceptional quality.

Honors students perform research as part of a full-year honors seminar (POLS UN3998-POLS UN3999, 8 points total) during their senior year, in place of the seminar requirement for majors. Honors students may, however, take additional seminars to fulfill other course requirements for the major. Theses are due in late March or early April. To be awarded departmental honors, the student must satisfy all the requirements for the major, maintain a 3.6 GPA in the major, and complete a thesis of sufficiently high quality to merit honors.

The honors seminar director provides general direction for the seminar and supervises all students. Each student also works with a faculty member in his or her major subfield

(American politics, comparative politics, international relations, or political theory) and a teaching assistant. The honors seminar meets weekly for part of the year and addresses general issues involved in research and thesis writing, such as how to develop research questions and projects, methodology, sources of evidence, and outlining and drafting long papers. The sessions are also used for group discussions of students' research and thesis presentations. Students are also expected to meet periodically with the supervising professor and preceptor.

Students who wish to apply to the Honors Seminar must notify the department in writing by the end of the spring semester of the junior year. Please check the department website for the official deadline. Normally no more than 10% of graduating majors receive departmental honors in a given academic year. Applicants are required to have already completed the methods requirement for the major.

In addition, students are encouraged to find a faculty sponsor for their thesis proposal. Research areas for the political science department faculty are listed on the department's website.

Students who are not accepted into the honors seminar or who decide after the application deadline that they would like to write an honors thesis may take one or two semesters POLS UN3901 Independent Research I and POLS UN3902 Independent Research II in order to write a thesis to submit for honors consideration. Any member of the department's full-time faculty may sponsor independent study courses. Part-time faculty are not obligated to sponsor these courses.

Students who choose this path must also complete all the requirements for the major and maintain a minimum major GPA of 3.6. Theses are due in late March or early April, and decisions about departmental honors are announced in May.

### Academic Prizes

The Department of Political Science administers the following prizes and awards. Unless otherwise noted, students do not play an active part in the nomination process. Rather, faculty members nominate students at their own discretion. Departmental prizes are reserved for political science majors.

#### Charles A. Beard Prize

A cash prize awarded every other year to the student who writes the best paper in political science during the academic year.

#### Caroline Phelps Stokes Prize

A cash prize established at the bequest of Caroline Phelps Stokes is awarded to a student who has been a degree candidate at Columbia College or Barnard College for at least one academic year, and who has written the best essay

in course or seminar work on the general subject of human rights.

#### **Allan J. Willen Memorial Prize**

A cash prize awarded to the Columbia College student who writes the best seminar paper on a contemporary American political problem.

#### **Edwin Robbins Academic Research/Public Service Fellowship**

The Robbins Fellowship provides a stipend each summer for at least two political science students in Columbia College who will be engaged in research in important matters of politics or policymaking or who will be working, without other compensation, as interns in a governmental office, agency, or other public service organization. Each spring, the department invites students to submit fellowship proposals. Awards are announced in late April or early May.

#### **Arthur Ross Foundation Award for Excellence in Political Science**

A cash prize awarded to the GS senior with an outstanding record of accomplishment in the study of political science at Columbia.

#### **Phyllis Stevens Sharp Fellowship in American Politics**

The Phyllis Stevens Sharp Endowment Fund provides stipends each year during the summer for one or more Columbia College or School of General Studies students majoring in political science to support research in American politics or policy making, or otherwise uncompensated internships in a government office, agency, or other public service organization. Each spring, the department invites students to submit fellowship proposals. Awards are announced in late April or early May.

## **OTHER INFORMATION**

### **Early Admission to the Master's Degree Program in Political Science for Columbia and Barnard Political Science Undergraduates**

While the Department of Political Science does not offer a joint bachelor of arts/master's degree, it does allow Columbia and Barnard undergraduates to apply for early admission to its master's degree program.

Students should apply during the fall semester of their senior year for admission to the M.A. program in the following fall semester, after completion of the B.A. degree. The department and the Graduate School of Arts and Sciences may award up to one-half residence unit of advanced standing and/or up to three courses (nine to twelve credits) of transfer credit for graduate courses (4000-level and above) taken at Columbia in excess of the requirements for the

Columbia bachelor's degree, as certified by the dean of the undergraduate school awarding the bachelor's degree.

For further information about the application process and minimum qualifications for early admission, please contact the director of undergraduate studies.

For further information about requirements for the M.A. degree, see <https://gsas.columbia.edu/degree-programs/ma-programs/political-science>.

## **PROFESSORS**

Jagdish Bhagwati (also Economics)  
 Allison Carnegie  
 Alessandra Casella (also Economics)  
 Jean L. Cohen  
 Michael Doyle (University Professor)  
 Robert Erikson  
 Virginia Page Fortna  
 Timothy Frye  
 Ester Fuchs (School of International and Public Affairs)  
 Andrew Gelman (also Statistics)  
 Donald P. Green  
 Bernard Harcourt (Law)  
 Fredrick Harris  
 Shigeo Hirano  
 John Huber  
 David C. Johnston  
 Ira Katznelson (also History)  
 Sudipta Kaviraj (Middle Eastern, South Asian, and African Studies)  
 Jeffrey Lax  
 Mahmood Mamdani (Anthropology)  
 Karuna Mantena  
 M. Victoria Murillo (also School of International and Public Affairs)  
 Andrew J. Nathan  
 Sharyn O'Halloran (also School of International and Public Affairs)  
 Justin Phillips (Chair)  
 Robert Y. Shapiro  
 Jack Snyder  
 Michael Ting (also School of International and Public Affairs)  
 Nadia Urbinati  
 Gregory Wawro  
 Andreas Wimmer (also Sociology)  
 Keren Yarhi-Milo (also School of International and Public Affairs)

## **ASSOCIATE PROFESSORS**

Sarah Daly  
 Alexander W. Hertel-Fernandez (also School of International and Public Affairs)  
 Turkuler Isiksel  
 Kimuli Kasara

John Marshall  
Carlo Prato

## ASSISTANT PROFESSORS

Jonathan E. Collins (also Teachers College)  
Naoki Egami  
Nikhar Gaikwad  
Junyan Jiang  
Eunji Kim  
Daniel Luban  
Andrew McCall  
Tamar Mitts (also School of International and Public Affairs)  
Calvin Thrall  
Yamil Velez

## VISITING PROFESSOR

Kenneth M. McElwain

## LECTURERS

Yujin Choi  
Tenzin Dorjee  
Jacqueline C. Dugard  
Nathan Feldman  
Kevin Funk  
Elise Giuliano  
Tsveta Petrova  
Chiara Superti

## ON LEAVE

Prof. O'Halloran (2024-25)  
Profs. Egami, Huber, Shapiro, Urbinati, and Dr. Funk (*Fall 2024*)  
Profs. Frye, Luban, and Dr. Giuliano (*Spring 2025*)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students (policies)

Major Planning forms are available on the [department website](#).

#### Policy on Double-Counting Courses

- Policies about double-counting courses to fulfill requirements in more than one major may be found here:
  - [Columbia College](#)
  - [School of General Studies](#)
- Courses in the Core Curriculum do not fulfill requirements for the Political Science major.

#### Policy on Counting Credits outside the Department of Political Science

- Courses taken at other institutions or other Columbia departments may not be used to meet the requirement of a major or minor in political science without the approval of the Director of Undergraduate Studies or the department's undergraduate adviser. Students should secure such approval in advance of registration.

#### Pass/D/Fail and Grading Policy

- Students may use the Pass/D/Fail grading option for only the first course taken in the Department of Political Science.
  - The course used to fulfill the research methods requirement cannot be taken Pass/D/Fail.
- Students must receive a grade of at least C- in order for a course to count towards the major or concentration.

#### AP Credit Policy

- Students who receive transfer credit for one or more AP exams in political science may count a maximum of one AP course toward the major or minor, contingent upon completing an upper-level (3000 or higher) course with a grade of C or higher in the subfield in which the AP exam was taken. All transfer credits must be approved by the Director of Undergraduate Studies or the [undergraduate adviser \(polisciadvising@columbia.edu\)](mailto:polisciadvising@columbia.edu).

#### Transfer Credit Policy

- For the political science major, a maximum of three courses in political science may be transferred from other institutions, including study abroad and AP credit. For the economics-political science and political science-statistics interdisciplinary majors, a maximum of two courses in political science may be transferred from other institutions. For the political science minor, a maximum of one course in political science may be transferred from other institutions. All transfer credits must be approved in writing by the Director of Undergraduate Studies or the graduate-student advisers.
- Students wishing to count transfer credits toward the major or minor should send the graduate-student advisers their transfer credit report, the syllabi of the courses they want to count toward departmental requirements, and a statement of how they want to apply the transfer credits to the requirements.

#### Independent Study Policy



- Independent Study (POLS UN3901 INDEPENDENT RESEARCH I in the fall or POLS UN3902 INDEPENDENT RESEARCH II in the spring) taken in fulfillment of course requirements for the major/minor must be taken for at least 3 points of credit.

## Program Planning for all Students

To be planned with the department as soon as the student starts to register for courses toward the major. Students should not wait until they formally declare the major before meeting with an undergraduate adviser during the registration period to plan their programs for the major.

## Course Numbering Structure

The department's course number scheme helps students identify at a glance the level, type, and subfield of a particular course.

### Prefixes and Course Levels

The prefix and first digit of the course number indicates the level of the course.

- UN: courses numbered 1000-3999 are for undergraduates only
- GU: mixed level courses numbered 4000-4999 are open to both undergraduates and graduate students
- GR: courses numbered 5000-9999 are for graduate students

Undergraduates may register for courses designated with a GR prefix by [following the instructions for cross-registration](#).

### Course Numbers and Subfields

Course distribution requirements for both undergraduate and graduate political science programs include depth and breadth with regard to subfields in the discipline. With the exception of undergraduate seminars, the second digit of course numbers indicates the subfield of the course content. Undergraduate seminars are numbered in the UN39xx series, with the third digit indicating subfield.

### Number Scheme for UN Lecture Courses

- X1XX: political theory
- X2XX: American politics
- X5XX: comparative politics
- X6XX: international relations
- X7XX: methodology

### Number Scheme for Undergraduate Seminars

Undergraduate seminars are numbered "UN 39xx." The third digit of the course number indicates subfield.

- All sections of 3911 are seminars in political theory.
- All sections of 3921 are seminars in American politics.
- All sections of 3951 3952 are seminars in comparative politics.
- All sections of 3961 3962 are seminars in international relations.

### Number Scheme for GU and GR Courses

For courses numbered GU4000-4999 and GR5000-9999, the second digit indicates subfield as follows:

- X1XX: political theory
- X2XX: American politics
- X4XX: comparative politics
- X7XX: methodology (see further detail about the scheme for methods courses below)
- X8XX: international relations

### Number Scheme for Graduate Field Survey Courses

All graduate field surveys are numbered at the 6000 level, and are the only 6000-level courses the department offers.

- GR 6101: Issues in Political Theory
- GR 6210-6211: Issues and Debates in American Politics
- GR 6411-6412: Comparative Politics Survey I and II
- GR 6801: Theories of International Relations

### Number Scheme for Methodology Courses

Methods courses may be offered as UN, GU, or GR courses at any level. Their second digit is 7. The third digit in the course number indicates the type of methodology covered in the course.

- X70X: basic tools (math and methods of inquiry)
- X71X: introductory statistics
- X73X: game theory
- X76X: applied empirical methods
- X78X: qualitative methods
- X79X: advanced statistics



# Guidance for First-Year Students

Our [Considering a Political Science Major](#) page has answers to common questions new students may have about the program. The department website also contains plenty of helpful information about advising, placement, course planning, opportunities in the department, and more. If you are interested in studying political science, then it is strongly recommended that you read through the information available there, as well as considering the different available [fields of study](#).

# Guidance for Transfer Students

Our [Considering a Political Science Major](#) page has answers to common questions transfer students may have about the program. The department website also contains plenty of helpful information about advising, placement, course planning, opportunities in the department, and more. If you are interested in studying political science, then it is strongly recommended that you read through the information available there, as well as considering the different available [fields of study](#).

After familiarizing themselves with the political science program, transfer students should consider submitting a transfer credit request for political science courses taken at their previous institution. Further information about counting transfer credits can be found in the requirements sections in this bulletin or on the department website.

# UNDERGRADUATE PROGRAMS OF STUDY

## Major in Political Science

### Course Requirements

Students must choose a **Primary Subfield** and a **Secondary Subfield** to study. The subfields are as follows:

- American Politics (AP)
- Comparative Politics (CP)
- International Relations (IR)
- Political Theory (PT)

The major in political science requires a minimum of 9 courses in political science, to be distributed as follows:

### Introductory Courses

Students must take two of the following introductory courses:

POLS UN1201	INTRO TO AMERICAN POLITICS
POLS UN1501	INTRO TO COMPARATIVE POLITICS
POLS UN1601	INTERNATIONAL POLITICS
POLS UN1101	POLITICAL THEORY I

NOTE: Introductory courses taken that do not fit into the Primary or Secondary Subfield will be counted in the Political Science Elective category.

### Primary Subfield

Minimum three courses.

### Minor Subfield

Minimum two courses.

### Seminars

Two 4-point 3000-level seminars, at least one of which is in the student's Primary Subfield.

(See "Seminars" section below for more information)

### Research Methods \*

Minimum one course in research methods. Courses that satisfy the research methods requirement are:

POLS UN3220	LOGIC OF COLLECTIVE CHOICE
POLS UN3289	Media and Data in American Politics
POLS UN3704	RESEARCH DESIGN: DATA ANALYSIS
POLS UN3720	RESEARCH DESIGN: SCOPE AND METHODS
POLS UN3706	EMPIRICAL RESEARCH METHODS IN POLITICAL SCIENCE
POLS UN3768	Experimental Research
POLS GU4710	PRINC OF QUANT POL RESEARCH 1
POLS GU4712	PRINC OF QUANT POL RESEARCH 2
POLS GU4716	Data Science for Political Analytics
POLS GU4720	QUANT METH 1 APPL REG CAUS INF
POLS GU4722	QUANT METH 2 STAT THEO #CAUS INF
POLS GU4724	QUANT METH 3 EXPERIMENTAL METH
POLS GU4726	QUANT METH 4 TOPICS IN METHODS
POLS GU4762	Politics in the Lab
POLS GU4764	Design and Analysis of Sample Surveys
POLS GU4790	Advanced Topics in Quantitative Research
POLS GU4792	Quantitative Methods: Research Topics

### Political Science Electives

Minimum one course (in any subfield).

\* Students must complete the methods requirement by the end of the junior year. A student may fulfill the research methods requirement with another course inside or outside the department only with the advance written permission of the Director of Graduate Studies or the department's undergraduate adviser. If a course outside the Department

of Political Science is used to satisfy the research methods requirement, this same course cannot be used to fulfill requirements of another major, concentration or program.

### Seminars

Students are expected to take two 3000-level 4-point seminars. They may choose from among the seminars offered, though at least one of the seminars taken must be in the student's Primary Subfield (that in which at least 9 other points have been completed). Entry into seminars requires the instructor's permission.

For detailed seminar registration guidelines, see [the department website](#). Seminars cannot be taken for R credit or Pass/D/Fail.

Barnard colloquia are open to students with the permission of the instructor. However, Barnard colloquia may **not** be used to fulfill the seminar requirement, though they may be used to fulfill subfield or elective requirements. Note that admission to Barnard colloquia is by application to the Barnard Political Science Department only. Please consult with the Barnard Political Science Department for more information.

## Major in Economics–Political Science

The major in economics-political science is an interdisciplinary major that introduces students to the methodologies of economics and political science and stresses areas of particular concern to both. This program is particularly beneficial to students planning to do graduate work in schools of public policy and international affairs.

Two advisers are assigned for the interdepartmental major, one in the Department of Economics and one in the Department of Political Science. Please note that the economics adviser can only advise on economics requirements and the political science adviser can only advise on political science requirements.

### Course Requirements

For the political science part of the major, students must choose a **Primary Subfield** and a **Secondary Subfield** to study. The corresponding introductory courses in both subfields must be taken, plus two electives in the Primary Subfield and one in the Secondary Subfield. The subfields are as follows:

- American Politics (AP)
- Comparative Politics (CP)
- International Relations (IR)
- Political Theory (PT)

The economics–political science major requires a total of 59 points: 22 points in economics, 17 points in political science, 6 points in mathematics, 6 points in statistical methods, 4

points in a political science seminar, and 4 points in the interdisciplinary seminar as follows:

#### Core Requirements in Economics

Students must take all of the following core economics courses:

ECON UN1105	PRINCIPLES OF ECONOMICS
ECON UN3211	INTERMEDIATE MICROECONOMICS
ECON UN3213	INTERMEDIATE MACROECONOMICS
ECON UN3412	INTRODUCTION TO ECONOMETRICS
or POLS GU4712	PRINC OF QUANT POL RESEARCH 2
ECON GU4370	POLITICAL ECONOMY

#### Core Requirements in Mathematics and Statistics

Students must take all of the following core mathematics and statistics courses:

MATH UN1101	CALCULUS I
MATH UN1201	CALCULUS III
STAT UN1201	CALC-BASED INTRO TO STATISTICS

#### Economics Electives

Students must take two electives at the 3000 level or higher in the Department of Economics.

#### Political Science Courses

Students must choose a Primary Subfield and a Secondary Subfield to study. The subfields are as follows: American Politics (AP), Comparative Politics (CP), International Relations (IR), and Political Theory (PT).

Primary Subfield: Minimum three courses, one of which must be the subfield's introductory course.

Secondary Subfield: Minimum two courses, one of which must be the subfield's introductory course.

#### Seminars

Students must take the following two seminars:

ECPS GU4921	SEMINAR IN POLITICAL ECONOMICS
POLS UN3911	SEMINAR IN POLITICAL THEORY
POLS UN3921	AMERICAN POLITICS SEMINAR
POLS UN3951	COMPARATIVE POLITICS SEMINAR
POLS UN3961	INTERNATIONAL POLITICS SEMINAR

and a Political Science Department seminar, in the student's Primary Subfield. Please select one of the following: \*

\* Students who wish to count toward the political science seminar requirement a course that is not in the above list of approved seminars must obtain permission from the political science Director of Undergraduate studies. Barnard colloquia may not be used to fulfill the seminar requirement. Note that admission to Barnard colloquia is

by application to the Barnard political science department only.

Major in Political Science–Statistics

The interdepartmental major of political science–statistics is designed for students who desire an understanding of political science to pursue advanced study in this field and who also wish to have at their command a broad range of sophisticated statistical tools to analyze data related to social science and public policy research.

Students should be aware of the rules regarding the use of the Pass/D/Fail option. Courses in which a grade of D has been received do not count toward the major requirements.

Political science–statistics students are eligible for all prizes reserved for political science majors.

The political science-statistics major requires a minimum of 15 courses in political science, statistics, and mathematics, to be distributed as follows:

POLITICAL SCIENCE

Primary Subfield

-Students must choose a Primary Subfield to study. Within the subfield, students must take a minimum of three courses, including the subfield's introductory course. The subfields and their corresponding introductory courses are as follows:

American Politics:

POLS UN1201 INTRO TO AMERICAN POLITICS

Comparative Politics:

POLS UN1501 INTRO TO COMPARATIVE POLITICS

International Relations:

POLS UN1601 INTERNATIONAL POLITICS

Political Theory:

POLS UN1101 POLITICAL THEORY I

-Additionally, students must take one 4-point 3000-level seminar in their Primary Subfield.

Research Methods

-Students must take the following two research methods courses:

POLS GU4710 PRINC OF QUANT POL RESEARCH 1  
or POLS UN3704 RESEARCH DESIGN: DATA ANALYSIS  
POLS GU4712 PRINC OF QUANT POL RESEARCH 2

STATISTICS

-Students must take one of the following sequences:

Sequence A — recommended for students preparing for graduate study in statistics<sup>1</sup>

MATH UN1101 CALCULUS I  
MATH UN1102 CALCULUS II

MATH UN2010 LINEAR ALGEBRA  
STAT UN1201 CALC-BASED INTRO TO STATISTICS  
STAT GU4203 PROBABILITY THEORY  
STAT GU4204 STATISTICAL INFERENCE  
STAT GU4205 LINEAR REGRESSION MODELS  
STAT GU4206 STAT COMP # INTRO DATA SCIENCE

or

Sequence B — recommended for students preparing to apply statistical methods to other fields

STAT UN1101 INTRODUCTION TO STATISTICS  
STAT UN2102 Applied Statistical Computing  
STAT UN2103 APPLIED LINEAR REG ANALYSIS  
STAT UN2104 APPL CATEGORICAL DATA ANALYSIS  
STAT UN3105 APPLIED STATISTICAL METHODS  
STAT UN3106 APPLIED MACHINE LEARNING

Statistics Elective

-Students must take an approved elective in a statistics or a quantitatively oriented course in a social science.

1. Students taking Statistics Sequence A may replace the mathematics requirements with both MATH UN1207 HONORS MATHEMATICS A and MATH UN1208 HONORS MATHEMATICS B.

Minor in Political Science

Course Requirements

The minor in political science requires a minimum of 5 courses in political science, to be distributed as follows:

Introductory Courses

Students must take two of the following introductory courses:

POLS UN1201 INTRO TO AMERICAN POLITICS  
POLS UN1501 INTRO TO COMPARATIVE POLITICS  
POLS UN1601 INTERNATIONAL POLITICS  
POLS UN1101 POLITICAL THEORY I

Political Science Electives

Minimum three courses (in any subfield)

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Political Science

#### Program of Study

To be planned with the department as soon as the student starts to register for courses toward the concentration. Students should not wait until they formally declare the concentration before meeting with an undergraduate adviser during the registration period to plan their programs for the concentration.

#### Concentration Requirements

Students must choose a **Primary Subfield** and a **Secondary Subfield** to study. The subfields are as follows:

- American Politics (AP)
- Comparative Politics (CP)
- International Relations (IR)
- Political Theory (PT)

The concentration in political science requires a minimum of 7 courses in political science, to be distributed as follows:

#### Introductory Courses

Students must take two of the following introductory courses:

POLS UN1201	INTRO TO AMERICAN POLITICS
POLS UN1501	INTRO TO COMPARATIVE POLITICS
POLS UN1601	INTERNATIONAL POLITICS
POLS UN1101	POLITICAL THEORY I

NOTE: Introductory courses taken that do not fit into the Primary or Secondary Subfield will be counted in the Political Science Elective category.

#### Primary Subfield

Minimum two courses.

#### Secondary Subfield

Minimum two courses.

#### Research Methods \*

Minimum one course in research methods. Courses that satisfy the methods requirement are:

POLS UN3220	LOGIC OF COLLECTIVE CHOICE
POLS UN3289	Media and Data in American Politics
POLS UN3704	RESEARCH DESIGN: DATA ANALYSIS
POLS UN3706	EMPIRICAL RESEARCH METHODS IN POLITICAL SCIENCE
POLS UN3720	RESEARCH DESIGN: SCOPE AND METHODS

POLS UN3768	Experimental Research
POLS GU4710	PRINC OF QUANT POL RESEARCH 1
POLS GU4712	PRINC OF QUANT POL RESEARCH 2
POLS GU4720	QUANT METH 1 APPL REG CAUS INF
POLS GU4722	QUANT METH 2 STAT THEO #CAUS INF
POLS GU4724	QUANT METH 3 EXPERIMENTAL METH
POLS GU4726	QUANT METH 4 TOPICS IN METHODS
POLS GU4762	Politics in the Lab
POLS GU4764	Design and Analysis of Sample Surveys
POLS GU4790	Advanced Topics in Quantitative Research
POLS GU4790	Advanced Topics in Quantitative Research
POLS GU4792	Quantitative Methods: Research Topics

#### Political Science Electives

Minimum two courses (in any subfield).

\* Students must complete the methods requirement by the end of the junior year. A student may fulfill the research methods requirement with another course inside or outside the department only with the advance written permission of the Director of Graduate Studies or the department's undergraduate adviser. If a course outside the Department of Political Science is used to satisfy the research methods requirement, this same course cannot be used to fulfill requirements of another major, concentration or program.

## PORTUGUESE STUDIES

**\*Portuguese Studies is offered exclusively as a concentration.**

#### Departmental Office:

101 Casa Hispánica | 612 W. 116th Street | (212) 854-4187  
<http://www.laic.columbia.edu/>

#### Interim Director of Undergraduate Studies:

Dr. Lee B. Abraham | [lba2133@columbia.edu](mailto:lba2133@columbia.edu)

#### Director of Graduate Studies:

Prof. Alberto Medina | [am3149@columbia.edu](mailto:am3149@columbia.edu)

#### Director of the Spanish Language Program:



Dr. Lee B. Abraham | 402 Casa Hispánica | (212) 854-3764  
| [lba2133@columbia.edu](mailto:lba2133@columbia.edu)

***Director of the Portuguese Language Program:***

José Antonio Castellanos-Pazos | 501 Casa Hispánica | (212) 854-0277 | [jc846@columbia.edu](mailto:jc846@columbia.edu)

***Director of the Catalan Language Program:***

Elsa Úbeda | [eu2130@columbia.edu](mailto:eu2130@columbia.edu)

The Department of Latin American and Iberian Cultures (LAIC) at Columbia, located in the Casa Hispánica, has long enjoyed an international reputation as a center for Hispanic and Lusophone studies. The department provides linguistic preparation in Spanish, Portuguese, and Catalan, and offers a flexible program to study manifestations of the Hispanic and Lusophone worlds in all historical periods—from the medieval to the globalized present—and in a variety of cultural contexts: the Iberian Peninsula, Latin America, the former colonies of Portugal, and the United States.

Students can enter the program at any level of linguistic and cultural preparedness. The department offers a placement exam to determine the level at which students may either begin or continue study. Majors and concentrators in Hispanic studies and Portuguese studies are typically double majors who bring insights and methods from fields such as history, political science, women's studies, anthropology, economics, Latino studies, Latin American studies, etc., which fosters engaging discussions.

## ACADEMIC PROGRAMS

The department offers two majors. The major in Hispanic studies gives students a well-rounded preparation in the history and culture of the Hispanic world. The second option, a major in Hispanic studies with specialization, allows students to study the Hispanic world through a number of fields, among them Latin American studies, gender studies, political science, economics, history, and sociology. The department also offers two concentrations: Hispanic studies and Portuguese studies.

The language and major programs have also been designed in close consultation and cooperation with Barnard's Department of Spanish and Latin American Cultures. All courses taken in one program may be used to fulfill the requirements of the other. Hence, Columbia and Barnard students may move freely between departments of both institutions for courses that best fit their intellectual interests and schedules.

## ADVANCED PLACEMENT

The department grants 3 credits for a score of 5 on the AP Spanish Language exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion of a 3300-level (or higher) course with a grade of

B or higher. This course must be for at least 3 points of credit and be taught in Spanish. Courses taught in English may not be used for language AP credit.

The department grants 0 credits for a score of 4 on the AP Spanish Language exam, but the foreign language requirement is satisfied.

The department grants 3 credits for a score of 5 on the AP Spanish Literature exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion of a 3300-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in Spanish. Courses taught in English may not be used for language AP credit.

The department grants 0 credits for a score of 4 on the AP Spanish Literature exam, but the foreign language requirement is satisfied.

## STUDY ABROAD

The department strongly recommends that all Hispanic and Portuguese studies majors/concentrators study abroad. Most courses taken abroad can be used to fulfill the requirements for the major and concentration, and with adequate planning, even some of the requirements for a second major or concentration. A maximum of four (4) courses taken abroad may be applied to the major, and a maximum of three (3) to the concentration in Hispanic or Portuguese studies.

All students are strongly advised to take either SPAN UN3349 HISPANIC CULTURES I (SP) or SPAN UN3350 HISPANIC CULTURES II (SP) before studying abroad. Actual or potential majors and concentrators in Hispanic or Portuguese studies should seek tentative approval of their programs from the director of undergraduate studies before their departure.

## THE HISPANIC INSTITUTE

The department hosts the Hispanic Institute at Columbia. Founded in 1920 as the Instituto de las Españas, the Institute sponsors and disseminates research on Hispanic and Luso-Brazilian culture. Since 1934, the Institute has published the *Revista Hispánica Moderna*, a distinguished journal in Hispanic criticism and theory.

## IN FULFILLMENT OF THE LANGUAGE REQUIREMENT

For students with no knowledge of Spanish, Portuguese, or Catalan, at least four terms of the language are required: UN1101-UN1102 (or UN1120) and UN2101-UN2102 (or UN2120). **All courses must be taken for a letter grade to fulfill the language requirement.**

Students with prior knowledge of Spanish who plan to continue studying Spanish are required to take the department's on-line placement examination before



registering for courses. Students with prior knowledge of Portuguese or Catalan should speak with the director of language programs.

Students may be exempted from the language requirement in one of four ways:

1. Present a score of 4 or 5 on the AP Spanish Language or Spanish Literature Exams. Students who receive a score of 5 in either exam are awarded 3 AP credits upon successful completion of a 3300-level (or above) course with a grade of B or higher. AP credit is not granted for a score of 4.
2. Present a score of 780 or above on the SAT Subject Test. Students with a score lower than 780 should take the department's on-line placement exam and follow the placement advice received.
3. Present a score of a 7, 6, or 5 on the International Baccalaureate Higher Level Exam in Spanish.
4. Obtain a score of 625 or higher on the department's Spanish as a Second Language Placement Exam. If the score on the online exam qualifies a student for exemption from the language requirement, they are required to take a second in-person version of the online placement exam during orientation (for entering students) or during the semester (for continuing students). Please check our Department's website for information about scheduling the second in-person exam for possible exemption..

## DEPARTMENTAL HONORS

Beginning in Spring 2015, the department put in place a new timeline and training program for juniors, to assist students with planning and completing the Honors Thesis during their senior year. The Honors Thesis is an excellent option for any student interested in pursuing a Master's degree or Ph.D.; but, above all, it is a highly formative research and writing experience—one that can bear unexpected fruits toward any path the student decides to take in the future.

All students pursuing a major through the department may apply to write an Honors Thesis. The department envisions the thesis as an intellectually challenging and rewarding experience that crowns four years of undergraduate studies with an original contribution in the field chosen by the student.

The department supports students in shaping their research topic and provides frequent advising throughout the research and writing process. The timeline is as follows:

- During the junior year, students take into consideration the possibility of writing an Honors Thesis in the following year. The topic of the Honors Thesis may likely originate in an advanced course taken during the junior year; students may also choose to develop ideas discussed or papers written in courses taken in previous

years. Juniors schedule a meeting (or, if the student is studying abroad, a Skype conversation) with the director of undergraduate studies to discuss their proposed topic and faculty adviser.

- By May 15, juniors who have decided to write an Honors Thesis in their senior year send a formal proposal to the director of undergraduate studies, which includes:
  - A title and a one-page abstract;
  - The name of the proposed faculty adviser;
  - An application for departmental partial funding support (for those who would like to pursue research during the summer).
- By May 30, the Honors Thesis committee reviews the proposals and informs the students of its decision.
- In the fall of the senior year:
  - Seniors selected to write the Honors Thesis enroll in a Supervised Individual Research section (SPAN UN3997 or SPAN UN3998) with their faculty adviser and write the Honors Thesis during the entire senior year under the direction of their adviser. For the purposes of the major, this independent study counts as a 3-point course towards elective courses.
  - Faculty advisers organize Honors Thesis Workshops to discuss students' ongoing projects and provide advising on research tools, methodological and theoretical frames, and overall writing process.
- In the fall of the senior year, students enroll in a Senior Seminar.
- By April 15 of the senior year, students complete and submit a PDF of the Honors Thesis via email for consideration towards departmental honors and prizes.

To be considered for departmental honors, a student must write an Honors Thesis and maintain a GPA of at least 3.6 in major courses. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

## UNDERGRADUATE PRIZES

The faculty awards an undergraduate prize every year:

### Dr. Antonio G. Mier Prize

Awarded for excellence in Hispanic Studies to a major degree candidate in the School of General Studies at Columbia University.

## PROFESSORS

Carlos J. Alonso  
 Bruno Bosteels  
 Patricia E. Grieve  
 Alberto Medina  
 Graciela R. Montaldo  
 Alessandra Russo

# ASSOCIATE PROFESSORS

Seth Kimmel  
Ana Paulina Lee

# ASSISTANT PROFESSORS

Jerónimo Duarte-Riascos  
Ana M. Fernández-Cebrián

# SENIOR LECTURERS

Lee B. Abraham  
Guadalupe Ruiz-Fajardo  
José Antonio Castellanos-Pazos  
Angelina Craig-Flórez  
Reyes Llopis-García  
Ana Paula Huback  
João Nemi Neto  
Francisco Rosales-Varo  
José Plácido Ruiz-Campillo

# LECTURERS

Francisca Aguiló Mora  
Leyre Alejandre Biel  
Irene Alonso-Aparicio  
Dolores Barbazán Capeáns  
Lorena García Barroso  
Juan Pablo Jiménez-Caicedo  
Diana P. Romero  
Elsa Úbeda

# GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

# UNDERGRADUATE PROGRAMS OF STUDY

## Major in Hispanic Studies

Students who declared this program before March 2016 (when requirements changed) should contact the Director of Undergraduate Studies to confirm their correct course of study.

Students may only register once in each of the Core Courses (SPAN UN3300, SPAN UN3349 and SPAN UN3350).

The major in Hispanic studies requires 11 courses (minimum of 33 points) as follows:

### Core Courses

SPAN UN3300	ADV LANGUAGE THROUGH CONTENT
SPAN UN3349	HISPANIC CULTURES I (SP)
SPAN UN3350	HISPANIC CULTURES II (SP)

### Elective Courses

Select seven elective courses (21 points): a minimum of three 3000- or 4000-level electives must be chosen within the department and up to three electives related to Hispanic Studies may be taken outside the department.

### Senior Seminar

SPAN UN3991	SENIOR SEMINAR
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## Major in Hispanic Studies with Specialization

Students who declared this program before March 2016 (when requirements changed) should contact the Director of Undergraduate Studies to confirm their correct course of study.

Students may only register once in each of the Core Courses (SPAN UN3300, SPAN UN3349 and SPAN UN3350).

The major in Hispanic studies with specialization requires 14 courses (minimum of 42 points) as follows. Students should consult the director of undergraduate studies to plan their program and refer to the Hispanic Studies Major Worksheet.

### Core Courses

SPAN UN3300	ADV LANGUAGE THROUGH CONTENT
SPAN UN3349	HISPANIC CULTURES I (SP)
SPAN UN3350	HISPANIC CULTURES II (SP)

### Elective Courses

Select ten elective courses (30 points): four of which must be chosen within the department and six of which must be in the field of specialization. Approved courses taken abroad may be counted as inside or outside the department for the specialization. A maximum of four courses taken abroad may be counted toward the major.

### Senior Seminar \*

SPAN UN3991	SENIOR SEMINAR
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\* In exceptional cases and with the director of undergraduate studies' approval, students may take a senior seminar in their area of specialization as a seventh course outside the department, if they have completed enough foundational courses to manage the demands of an advanced seminar. In such cases, the director of undergraduate studies must receive a letter or e-mail from the seminar instructor indicating approval of a student's membership in the course; the seminar project must be on a Hispanic topic; and a copy of the project must be turned in to the director of undergraduate studies for the student's file upon completion of the course. Students who complete the senior seminar in another department may also count it as the third elective course on a Hispanic topic outside the department, in which case they may take a fourth 3000- or 4000-level course in the department.

## Minor in Hispanic Studies

### Prerequisite

Students must either have progressed through the introductory level and first semester of the intermediate language sequence, or display the proficiency equivalent (to be demonstrated by a

placement exam).

### 5 Total Courses:

#### Two Language Courses

-SPAN UN2102 - Intermediate Spanish

-SPAN UN3300 - Advanced Language through Content

#### Three 3000+ Courses

-Hispanic Cultures I (SPAN UN3349) or Hispanic Cultures II (SPAN UN3350)

-Two elective courses in LAIC at 3000+ level or higher (SPAN, PORT, CAT). The extensive

offering of classes varies from year to year.

### Students with higher level of language proficiency have three options :

#1- Language classes in LAIC may be used as an elective

Students who test out of SPAN UN2102 may take the equivalent of two semesters of another language course at the introductory level OR one semester of an intermediate language course in another language taught in the Latin American or Iberian Department (ex: Catalan, Portuguese)

The goal is to achieve reading proficiency.

#2- Study Abroad / Course outside LAIC:

Students who test out of SPAN UN2102 and have not chosen #1(Catalan or Portuguese language classes) can count one course related to Latin American and Iberian Cultures content outside of LAIC at the 3000+ level, subject to approval by the Director of Undergraduate Studies.

#3- Substitute UN 2102 and/or UN3300 for a LAIC elective

Students who test out SPAN UN2102 and have not chosen options #1 or #2 can substitute it with an elective course in LAIC at the 3000+ level or higher, subject to approval by the Director of Undergraduate Studies. In addition, a student who has earned a 5 in Advanced Placement (AP)

Spanish or is a native speaker who has completed high school in a Spanish-speaking country may substitute UN3300 with an elective course in LAIC at the 3000+

level or higher, subject to approval by the Director of Undergraduate Studies.

## Minor in Portuguese

### Prerequisite

Students must have completed 3 semesters of Portuguese (PORT UN1101, PORT UN1102, and PORT UN2101), or the proficiency equivalent (to be demonstrated by a placement exam). Spanish speakers may fulfill the prerequisite with PORT 1320 Portuguese for Spanish Speakers.

### 5 Total Courses:

One Language Course

-Either PORT UN2102 (Intermediate Portuguese II) or PORT UN2120 (Comprehensive Intermediate Portuguese)

#### Four 3000+ Courses

\*The following courses are offered on a rotating basis each semester so students have the chance to choose from a variety of topics each semester:

-PORT UN3300 - Advanced Language through Content

-PORT UN3101 - Conversations about the Lusophone World

-PORT UN3301 - Advanced Writing and Composition

-PORT UN3330 - Introduction to Portuguese Studies

-PORT UN3350 - Lusophone and Afro-Brazilian Cultures

-PORT UN3601 - Race, Medicine, and Literature in Brazil

-PORT UN4033 - Language and Queer Identities in Brazil?

### Students with higher level of language proficiency have three options :

#1- Language classes in LAIC may be used as an elective

Students who test out of PORT UN2102 may take the equivalent of two semesters of another language course at the introductory level OR one semester of an intermediate language course in another language taught in the Latin American or Iberian Department (ex: Catalan, Spanish) The

goal is to achieve reading proficiency.

#2- Study Abroad / Course outside LAIC:

Students who test out of PORT UN2102 and have not chosen #1 (Catalan or Spanish language classes) can count one Columbia course related to Latin American and Iberian Cultures content outside of LAIC at the 3000+ level OR two study abroad courses, subject to approval by the

Director of Undergraduate Studies (classes should have a clear Portuguese focus). Note the opportunity to count two

study abroad courses for Portuguese (vs. one for Spanish), which rewards students for studying abroad in Portuguese-speaking places

### #3- Substitute PORT UN2102 for a LAIC elective

Students who test out PORT UN2102 and have not chosen options #1 or #2 can substitute it with an elective course in LAIC at the 3000+ level or higher, subject to approval by the Director of Undergraduate Studies.

## Minor in Catalan

The Catalan Minor follows the structure of the LAIC and Portuguese Minors but allows for more interdisciplinary and thematic courses since there is only one Catalan faculty member.

### Prerequisite

Students must have completed one year of Catalan (CAT UN1120 and CAT UN2101), or the proficiency equivalent (to be demonstrated by a placement exam).

### 5 Total Courses:

One Language Course

-CAT UN2102 - Intermediate Catalan II

Four 3000+ Courses

\*The following courses are offered on a rotating basis each semester so students have the chance to choose from a variety of topics each semester. Note below that the conditions for counting Catalan related classes from beyond LAIC (both at Columbia and during study abroad) are more

flexible than for Spanish and Portuguese, since we are cognizant of our reliance on a single Catalan faculty member in LAIC

-CAT UN 3300 - Advanced Catalan through Content

-CAT UN 3500 - Literature in Catalan Cinema

-SPAN3300 - Introduction to Catalan Cultures OR  
SPAN3300 - Exploring Barcelona

### Students with higher level of language proficiency have three options :

#1- Language classes in LAIC may be used as an elective

Students who test out of CAT UN2102 may take the equivalent of two semesters of another language course at the introductory level OR one semester of an intermediate language course in another language taught in the Latin American or Iberian Department (ex: Portuguese, Spanish)

The goal is to achieve reading proficiency.

#2- Study Abroad / Course outside LAIC:

Students who test out of CAT UN2102 and have not chosen #1 (Catalan or Spanish language classes) can count two Columbia course related to Latin American and Iberian Cultures content outside of LAIC at the 3000+ level OR two study abroad courses, subject to approval by the

Director of Undergraduate Studies (classes should have a clear Catalan focus). Note the opportunity to count two non-LAIC (vs. one for Portuguese and Spanish) or two study abroad courses for Catalan (vs. two for Portuguese and one for Spanish), which rewards students for

studying abroad in Catalan-speaking places.

### #3- Substitute CAT UN2102 for a LAIC elective

Students who test out CAT UN2102 and have not chosen options #1 or #2 can substitute it with an elective course in LAIC at the 3000+ level or higher, subject to approval by the Director of Undergraduate Studies.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Hispanic Studies

Students who declared this program before March 2016 (when requirements changed) should contact the Director of Undergraduate Studies to confirm their correct course of study.

Students may only register once in each of the Core Courses (SPAN UN3300, SPAN UN3349 and SPAN UN3350).

The concentration in Hispanic studies requires eight courses (minimum of 24 points) as follows:

#### Core Courses

SPAN UN3300	ADV LANGUAGE THROUGH CONTENT
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SPAN UN3349	HISPANIC CULTURES I (SP)
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SPAN UN3350	HISPANIC CULTURES II (SP)
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#### Elective Courses

Select five elective courses (15 points): a minimum of four 3000- or 4000-level courses must be chosen within the department and up to one elective related to Hispanic Studies may be taken outside the department. A maximum of three courses taken abroad may be counted toward the concentration. Students may only register once for SPAN UN3300.

### Concentration in Portuguese Studies

The concentration in Portuguese studies requires eight courses (minimum 24 points) as follows:



**Core Courses**

PORT UN3101	CONVERS ABOUT LUSOPHONE WORLD
PORT UN3300	ADV LANGUAGE THROUGH CONTENT
PORT UN3330	INTRO TO PORTUGUESE STUDIES
PORT UN3350	LUSOPHONE AFR/AFRO- BRAZ CULTRS

**Elective Courses**

Select four elective courses (12 points): at least two must have a PORT designation and be chosen from the department's 3000-level offerings. Electives taken outside of the department must have the director of undergraduate studies' approval and be related to Portuguese studies. A maximum of two courses taught in English may be counted toward the concentration overall. Refer to the Portuguese Concentration Worksheet.

## PSYCHOLOGY

### THE PSYCHOLOGY DEPARTMENT:

Department website: <https://psychology.columbia.edu/>

Office location: 406 Schermerhorn Hall

Office contact: 212-854-3608; [info-psych@columbia.edu](mailto:info-psych@columbia.edu)

Department Chair: Nim Tottenham, Ph.D.

Psychology Major and Concentration Advisors:

- Prof. Patricia Lindemann; [pgl2@columbia.edu](mailto:pgl2@columbia.edu) (Students with last names beginning A-F)
- Prof. Nora Isacoff; [ni2237@columbia.edu](mailto:ni2237@columbia.edu) (Students with last names beginning G-K)
- Prof. Katherine Fox-Glassman; [kjt2111@columbia.edu](mailto:kjt2111@columbia.edu) (Students with last names beginning L-R)
- Prof. John Thorp; [jnt2136@columbia.edu](mailto:jnt2136@columbia.edu) (Students with last names beginning S-Z)

Neuroscience and Behavior Major Advisors:

Psychology:

- Prof. Alfredo Spagna; [as5559@columbia.edu](mailto:as5559@columbia.edu) (Students with last names beginning A-H);
- Prof. Sarah DeMoya; [sed2182@columbia.edu](mailto:sed2182@columbia.edu) (Students with last names beginning I-Q);
- Prof. Chris Baldassano; [cab2304@columbia.edu](mailto:cab2304@columbia.edu) (Students with last names beginning R-Z);

Biology:

- (CC): Dr. Erin Barnhart; [eb3305@columbia.edu](mailto:eb3305@columbia.edu)
- (GS): Prof. Deborah Mowshowitz; [dbm2@columbia.edu](mailto:dbm2@columbia.edu)

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- Prof. Lila Davachi; [ld24@columbia.edu](mailto:ld24@columbia.edu)
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Undergraduate Curriculum Assistant: Erin Murphy, 406 Schermerhorn Hall; 212-854-8859; [psych-uca@columbia.edu](mailto:psych-uca@columbia.edu)

## THE STUDY OF PSYCHOLOGY

The Department of Psychology offers students a comprehensive curriculum in psychological science, including research methods, cognition, neuroscience, developmental, social, and clinical areas. The curriculum prepares majors for graduate education in these fields and also provides a relevant background for social work, education, medicine, law, and business. Psychology course offerings are designed to meet the varying needs and interests of students, from those wishing to explore a few topics in psychology or to fulfill the science requirement, to those interested in majoring in Psychology or in Neuroscience and Behavior.

## STUDENT ADVISING

The Department of Psychology offers a variety of advising resources to provide prospective and current undergraduate majors and concentrators with the information and support needed to successfully plan their programs. An overview of these resources is provided on the Psychology Undergraduate Advising Resources website.

Students are encouraged to consult with Peer, Faculty, and Program Advisers as they plan their course of study in Psychology or Neuroscience and Behavior. Faculty and Peer Advisers are important contacts for general advice on class choices, research opportunities, and post-graduation plans. For definitive answers to questions regarding major requirements and other aspects of your degree, including transfer credit, current and prospective majors should consult their Program Adviser (Director of Undergraduate Studies) or the Undergraduate Curriculum Assistant in the departmental office. Program Adviser assignments and contact information are provided on the departmental website. For additional information about program, faculty, peer, and pre-clinical advising, please see the Psychology Undergraduate Advising Resources website.



## Enrolling in Classes

### Major Requirement Checklist

Prior to the start of their final semester, all seniors must submit a Major Requirement Checklist showing all major courses they have taken and those they plan to take. The Psychology department evaluates each checklist to determine whether or not the course plan completes the major requirements and then notifies the student accordingly. If the student's course plan changes, or if it does not satisfy the major requirements, a revised checklist must be submitted. Departmental approval of an accurate and up-to-date checklist will help ensure completion of all major requirements on time for graduation.

### Non-Psychology Courses

Some courses offered outside of the Psychology departments can count toward major requirements (e.g., courses taken in the Statistics Department; cognate courses offered through Philosophy, Business, Law, etc.). A maximum of 2 such non-PSYC courses may be applied toward the major. Courses offered in the Barnard Psychology or Neuroscience departments do not count toward this limit.

### Overlapping Courses

Students cannot receive credit for two courses—one completed at Columbia and one at another institution (including Barnard)—if those courses have largely overlapping content. For example, PSYC UN1001 THE SCIENCE OF PSYCHOLOGY is similar in content to introductory psychology courses offered at many other institutions, including Barnard; only one such course will receive credit. Similarly, PSYC UN2630 SOCIAL PSYCHOLOGY and PSYC BC1138 Social Psychology have overlapping content; only one will receive credit. Please refer to the table of Overlapping Courses for a partial list of courses at Columbia and Barnard that are known to overlap.

## Preparing for Graduate Study

Most graduate programs in psychology, including those in clinical psychology, require:

An undergraduate course in introductory psychology:

PSYC UN1001	THE SCIENCE OF PSYCHOLOGY
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A course in statistics such as one of the following:

PSYC UN1610	STATISTICS-BEHAVIORAL SCIENTISTS
PSYC UN1660	Advanced Statistical Inference
STAT UN1001	INTRO TO STATISTICAL REASONING
STAT UN1101	INTRODUCTION TO STATISTICS
STAT UN1201	CALC-BASED INTRO TO STATISTICS

A laboratory course in research methods such as one of the following:

PSYC UN1420	RESEARCH METHODS - HUMAN BEHAVIOR
PSYC UN1450	RESEARCH METHODS - SOCIAL COGNITION # EMOTION
PSYC UN1455	RESEARCH METHODS: SOCIAL/PERSONALITY
PSYC UN1490	RESEARCH METHODS - COGNITION/DECISION MAKING

Students should also take a variety of more advanced undergraduate courses and seminars. Students interested in PhD programs in any area of psychology are strongly encouraged to become involved in a research lab, and may wish to participate in the Senior Thesis Advanced Research program (STAR). To join STAR, students must apply by the early fall of their junior year.

Students interested in clinical psychology should obtain experience working in a community service program in addition to supervised individual research experience. Students should consult the department's pre-clinical adviser, Prof. E'mett McCaskill, and attend the department's pre-clinical advising events for more information. Additional resources to help prepare students for graduate study in psychology, and for careers in clinical psychology, are available on the Department of Psychology's website. Students may also sign-up for the preclinical advising listserv to receive emails about events and relevant information.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

### Advanced Placement

The Psychology Department accepts a score of 5 on the AP Psychology exam, or a score of 7 on the Higher Level IB Psychology exam, to meet the Science of Psychology requirement. The AP/IB Psychology exam does not count as a course towards their program; students placing out of the Science of Psychology requirement in this way will need to take an additional course to fulfill the required number of courses for their program.

The College Board Advanced Placement (AP) statistics scores do not satisfy the statistics requirement. Students who have completed AP statistics may opt to take a more advanced statistics course to fulfill this requirement with the approval of one of the Psychology Program Advisors.

### Barnard College Courses

A maximum of 5 courses counted toward the major may be from outside of the Columbia Psychology Department ("outside Columbia Psych" includes both Barnard and

transfer courses, as well as courses in other departments including Statistics).

The table of [approved Barnard psychology courses](#) indicates which courses have been approved for specific requirements of the psychology major. To seek approval for a course not on the approved list to be applied to a specific requirement, students must contact their program advisor. All Barnard Psychology courses not on the approved list for a specific requirement may be applied as elective credit towards the 11 courses needed for the major requirements.

Barnard Lab courses do not count towards the Research Methods requirement of the Psychology Major or Concentration.

## Transfer Courses

For a course taken outside of Columbia or Barnard to be able to count toward the Psychology Major or the Neuroscience & Behavior Major, the following must be true:

- The course should be substantially similar in content and/or learning objectives to one offered at Columbia.
- The course must have been approved for at least 3 points of credit by GS or CC.
- The grade received must be a B- or better.
- The course must have been taken for a grade (no Pass/Fail).
- The course must have been taken within the past 7 years.

If a course taken at another institution overlaps with a course taken at Columbia, only one will be applied towards the major. Please consult your Program Advisor if you are considering registering for a Columbia or Barnard course that is similar to a transfer course you plan to count toward your major.

### Psychology Major

- Up to 3 transfer courses may be counted toward the Psychology Major. Approval of transfer credits on a student's Entrance Credit Report toward general requirements for the bachelor's degree does not grant approval of these credits toward the psychology major. Once your school has approved your transfer courses, you then need to confirm whether they can fulfill psychology requirements using the [Major Requirement Substitution Form](#).
- Online or hybrid transfer courses may only be applied towards elective credit for the major. All transfer courses applied to specific major requirements (e.g., Introductory Psychology, Groups 1 – 3, etc.) must have been taken fully in person.

- Students who have completed an introductory psychology course at another institution should submit a Major Requirement Substitution Request (see procedure, below) to verify whether or not this course meets departmental standards to count towards the major. If transfer credit toward the major is not approved, the student must enroll in PSYC UN1001 or PSYC BC1001 to complete this major requirement.
- Statistics courses taken anywhere other than Columbia or Barnard may not count toward the major. Psychology majors will benefit from taking statistics here no matter how well they did in previous intro stats courses. If you are entering Columbia with extensive statistics coursework, your Program Advisor will help you find an appropriate advanced statistics course that can meet the Statistics Requirement of your major.
- The Psychology Department allows students to meet the Science of Psychology requirement with a score of 5 on the AP Psychology exam, or a score of 7 on the Higher Level IB Psychology exam. The AP/IB Psychology exam does not count as a course towards their program; students placing out of the Science of Psychology requirement in this way will need to take an additional course to fulfill the required number for their major.
- College Board Advanced Placement (AP) statistics exam scores may not be used to satisfy the statistics requirement of the Psychology Major.

### Psychology Concentration

- The same guidelines for transferring courses to count toward the Psychology Major apply to the concentration, except that the maximum number of transfer courses that may count toward the concentration is 2.

### Neuroscience & Behavior Major

- The Neuroscience & Behavior major is co-sponsored by the Department of Psychology and the Department of Biological Sciences. In addition to one year of college general chemistry, eleven courses are required to complete the Neuroscience & Behavior major: seven from the Department of Biological Sciences and five from the Department of Psychology (commonly referred to as P1-P5). Please, consult [this page](#) for additional information on the major requirements for the Neuroscience and Behavior Major.
- Students should consult their [Program Advisor](#) in the Psychology department before registering for psychology courses offered outside the department. With the Advisor's approval, a maximum of one psychology course from another institution, including Barnard,

may be applied toward the psychology portion of the Neuroscience & Behavior major.

- Transfer courses taken in any modality (in-person, online, or hybrid) may be eligible to count toward P1. Transfer courses must have been taken fully in-person to be eligible to count for P2-P5.
- Students who wish to obtain credit for a course taken at Barnard or at another institution should complete the Major Requirement Substitution Form. To be approved for the major, the course should be substantially similar to one offered by this department and approved for this major, and the grade received must be a C- or better if from Barnard, or B- or better if from another institution.
- The Psychology Department allows students to meet the Science of Psychology requirement with a score of 5 on the AP Psychology exam, or a score of 7 on the Higher Level IB Psychology exam. The AP/IB Psychology exam does not count as a course for their program; students placing out of the Science of Psychology requirement in this way will need to take an additional course to fulfill the required number of courses for their major.
- Statistics courses taken anywhere other than Columbia or Barnard may not be counted toward the N&B major; AP Statistics also is not able to count toward the Statistics (i.e., P3) requirement. Students who have completed a statistics course elsewhere are encouraged to fulfill the P3 requirement either with an intermediate/advanced stats course offered at Columbia, or by taking a PSYC UN1400-level research methods course.

## Study Abroad Courses

Students planning to study abroad should consult with their Program Advisor (see above) prior to selecting their courses to see which ones are likely to be able to count toward major requirements. The official process of approving study-abroad courses to count toward your major can begin once you have completed your study abroad semester(s); however, your Program Advisor can give you their best guess for what can and cannot count.

**Psychology majors:** We recommend that you plan to meet most, if not all, of your major requirements while at Columbia. The Psychology Major is quite small in terms of course requirements, to allow for students to explore electives that complement their major coursework. This also allows for students studying abroad to spend that semester focusing on courses that you wouldn't have had the chance to take at Columbia.

**Neuroscience & Behavior majors:** It can be difficult to fit a study-abroad semester in to the N&B major because the Biology requirements include two year-long course sequences. N&B majors looking to study abroad should

consult with their advisors as early as possible to see if it will be feasible to complete all of your major requirements.

## Summer Courses

Any course offered by the Psychology Department during the Summer Session is applicable toward the same major requirement(s) as the corresponding course of that same number offered during the academic year. For instance, PSYC S1001 The Science of Psychology meets the same major requirements as does PSYC UN1001 THE SCIENCE OF PSYCHOLOGY.

## CORE CURRICULUM CONNECTIONS

PSYC UN1001 THE SCIENCE OF PSYCHOLOGY and any PSYC course in the 2200- or 2400-level may be used to partially fulfill the science requirement. 2600-level courses and some other psychology courses, including PSYC BC1001 INTRODUCTION TO PSYCHOLOGY and other Barnard psychology courses, may not be used to fulfill the science requirement.

All 3- and 4-point courses numbered in the 32xx, 34xx, 42xx, and 44xx can partially fulfill the science requirement. For more detailed information regarding psychology courses that may be applied toward the science requirement, see the Core Curriculum section in this bulletin.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

All qualified students are welcome to apply to join a research lab and contribute to ongoing projects. Students may volunteer to work in a lab, register for supervised individual research (PSYC UN3950 Supervised Individual Research), or participate in the department's Senior Thesis Advanced Research (STAR) Program. Information on faculty research is available on the departmental website. Students are advised to read about research laboratories on faculty lab sites and visit the professor's office hours to discuss opportunities. At the beginning of the fall term, the department also hosts a Lab-Preview event for students to learn about research opportunities for the upcoming semester.

## Undergraduate Research in Courses

No more than 4 points of PSYC UN3950 Supervised Individual Research or PSYC UN3920 HONORS RESEARCH may be taken in any one term, and no more than 2 courses' worth (8 points total) of research and field work courses may be applied toward the major. "Research and field work courses" include: PSYC UN3950 SUPERVISED INDIVIDUAL RESEARCH, PSYC BC3466 FIELD WORK # RESEARCH SEMINAR: TODDLER CENTER, PSYC BC3473 CLINICAL FIELD PRACTICUM, PSYC BC3592 Senior Research Seminar

and [PSYC BC3599](#) Individual Projects. Research courses must be taken for 3 or 4 points in order to count toward the major. (See above for further restrictions on applying Barnard courses toward the psychology major).

## Senior Thesis Coursework and Requirements

Students with strong interests in psychological/neuroscientific research are encouraged to apply for admission to the Psychology Department's Psych/Neuro Senior Thesis Advanced Research (STAR) program in the fall of their junior year or the equivalent, such that they will be able to participate in the three consecutive semesters (spring - fall - spring) that are required in the program.

Important: Students will need to confirm that a professor has agreed to mentor them before being admitted into the program. Therefore, interested applicants should reach out to potential mentors to find a lab placement before applying. Tip: The best way to ensure finding a mentor is to get involved in that mentor's research before asking if they can provide mentoring/supervision on your thesis. Please read through all the information below before submitting your application.

Students interested in engaging in a Psych/Neuro Senior Thesis:

The series includes:

1. Enrolling in a 3-semester Senior Thesis Advanced Research series, which includes a weekly seminar and research commitment, that must occur consecutively in your Junior year spring semester and Senior year (fall & spring), or equivalent [NOTE: this research course includes performing intensive, independent research with a lab mentor, writing a final thesis, and giving an oral presentation of the thesis at the end of the 3rd semester]
2. Enrolling in a one-semester methods course (PSYC UN1920, UN1420/21, UN1450/51, UN1455/56, UN1490/91) in any semester during undergrad (i.e., before or during the series). Students are strongly encouraged to complete this methods training during or before the spring of their junior year (or equivalent).

The application is due in mid fall, and decisions are communicated in time for admitted students to register to begin Psych/Neuro Senior Thesis Advanced Research-related classes in the spring.

The application process comprises the following steps:

1. Identifying a lab sponsor: If you think you might be interested in applying, you should start reaching out to labs that you're interested in well in advance of the application deadline to see if they might have openings for research assistants and if they'd be willing to mentor

you in your research. Keep in mind that mentoring a student is a significant commitment on the part of a professor, and so it may be difficult to identify a professor who can provide mentorship. Successful applicants typically demonstrate how their own research interests fall in line with those of their proposed sponsor and attest that their faculty member/PI has agreed to sponsor them. Once you have secured a position in a lab, you and your mentor will need to fill out the [mentor agreement form](#).

2. Complete the online application: The application will be made available on our psychology department [website](#), and comprises a few relatively short questions asking students to describe their previous coursework and research-related experiences and to write about their intended research interests.

## Undergraduate Research Outside of Courses

Most students who work in psychology labs do so either on a volunteer basis or as a paid Research Assistant. See [here](#) for more information on getting involved in a psychology lab.

## DEPARTMENT HONORS AND PRIZES

All students aspiring to graduate with Academic Honors must enroll in the Psychology Department's Psych/Neuro Senior Thesis Advanced Research (STAR) program. However, acceptance to and participation in this program does not automatically result in earning academic honors (see requirements for academic honors below).

Note the students majoring in Neuroscience & Behavior may earn academic honors through the Department of Biological Sciences instead. (Please check their website for more details on that process.)

## Department Honors

The Psych/Neuro Senior Thesis Advanced Research program is open to students majoring in Psychology or Neuroscience & Behavior and includes the following:

**Senior Thesis Advanced Research Seminar (UN3930):** This is a two-hour, 1-4 credit course that meets biweekly, during which students present and discuss their ongoing research. Students in the course also attend the [Psychology Department's Colloquium Series](#), which features researchers from outside the Department speaking on a variety of topics in Psychology/Neuroscience. The seminar and colloquia always take place on Wednesdays from 4:10 - 6:00 p.m. Students in the Psych/Neuro Senior Thesis Advanced Research program enroll in this course during the spring of their junior year and during the fall and spring of their senior years, or the equivalent.



**Senior Thesis Research:** Starting in the spring of their junior year and continuing through senior year, all students in the Psych/Neuro Senior Thesis Advanced Research program conduct research under the supervision of a Psychology Department faculty member or a faculty member/principal investigator in a psychology- or neuroscience-focused lab outside the department, including at Barnard College, the Zuckerman Mind Brain Behavior Institute, Columbia Business School, Columbia University Irving Medical Center, and other research institutions in the area.

**Research Methods Course:** To fulfill this requirement, students should complete a methods course (PSYC UN1920 The How-To's of Research; PSYC UN1420/21 Research Methods: Human Behavior; PSYC UN1450/51 Research Methods: Social Cognition & Emotion; PSYC UN1455/56 Research Methods: Social & Personality Psychology; PSYC UN1490/91 Research Methods: Cognition & Decision-making).

**Senior Thesis:** Students in the Psych/Neuro Senior Thesis Advanced Research program complete an original research project under the supervision of their faculty advisor. Senior students present their research orally at the last colloquium of the Spring term, and also submit a written senior thesis.

**Eligibility for Departmental Honors:**

Students participating in the Psych/Neuro Senior Thesis Advanced Research program are also eligible to receive academic honors when they graduate, provided they 1) complete all components of the program, 2) earn a GPA in the major of 3.6 or higher at the time of graduation, and 3) are recommended by the Psychology department faculty. Please note that academic honors can be awarded to no more than 10% of the graduating class each year, so while only students who have participated in this senior thesis research intensive are eligible to receive academic honors, not everyone in the Senior Thesis Advanced Research program will receive academic honors.

## OTHER IMPORTANT INFORMATION

### Email Communication

The department maintains an e-mail distribution list with the UNIs of all declared majors and concentrators. Students are held responsible for information sent to their Columbia e-mail addresses. Students should read these messages from the department regularly and carefully. They are intended to keep students informed about deadlines, requirements, events, and opportunities. Prospective majors or concentrators who would like to be added to the e-mail distribution list should contact the Undergraduate Curriculum Assistant in the departmental office.

### Online Information

The Department of Psychology [website](#) provides access to a wide variety of information for majors and prospective majors. Among other useful resources, students will find syllabi posted for most lecture and lab courses and for many advanced seminars. Students should read the on-line course syllabi prior to registering for psychology courses. For assistance in finding all necessary resources, students should contact the undergraduate curriculum assistant ([psych-uca@columbia.edu](mailto:psych-uca@columbia.edu)).

### Grade Requirements for the Major

A grade of C-, or higher, must be earned and revealed on your transcript in any Columbia or Barnard course — including the first — that is used to satisfy the major or concentration requirements.

Courses taken on a Pass/D/Fail basis may not be used to satisfy the major or concentration requirements unless the grade of P is uncovered by the Registrar's deadline. Students may petition to have their P/D/F grades uncovered after the registrar's deadline for the following courses only: PSYC UN1001 Science of Psychology, and PSYC UN1610 Introductory Statistics for Behavioral Scientists.

Courses taken for a P grade may not be used to satisfy the major or concentration requirements, except for P grades earned in the Spring 2020 semester, and during semesters when CC and GS enact exceptions allowing P grades to count for major requirements.

## PROFESSORS

Dima Amso  
Niall Bolger  
Lila Davachi  
Geraldine Downey  
William Fifer (Psychiatry, Pediatrics)  
Norma Graham  
Carl Hart  
Tory Higgins  
Donald C. Hood  
Nikolaus Kriegeskorte  
Janet Metcalfe  
Kevin Ochsner (Chair)  
Rae Silver (Barnard)  
Daphna Shohamy  
Herbert Terrace  
Nim Tottenham  
Sarah M.N. Woolley

## ASSOCIATE PROFESSORS

Jon Freeman  
Valerie Purdie-Greenaway  
Randy Auerbach (Psychiatry)



## ASSISTANT PROFESSORS

Mariam Aly  
Christopher Baldassano  
Larisa Heiphetz  
Bianca Marlin  
Sarah Canetta (Psychiatry)  
Yunglin Gazes (Neurology)

## LECTURERS IN DISCIPLINE

Katherine Fox-Glassman  
Patricia Lindemann  
Caroline Marvin  
Alfredo Spagna

## ADJUNCT FACULTY

Usha Barahmand  
Jennifer Blaze  
Helen Brew  
Jeffrey Cohen  
Irit Felsen  
David Friedman  
Hannah Hoch  
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Tina Kao  
Svetlana Komissarouk  
E'mett McCaskill  
Michele Miozzo  
Michael Naft  
Jenna Reinen  
Svetlana Rosis  
Ayanna Sorett

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

Majors and concentrators in psychology and majors in neuroscience and behavior should begin planning a program of study as early as possible. All necessary forms and information are available in [Program Planning Tips](#). All majors and concentrators in [Psychology](#) and majors in [Neuroscience and Behavior](#) should complete a [Major Requirement Checklist \(MRC\)](#) before consulting a program adviser to discuss program plans. At minimum, all students must submit a [Major Requirement Checklist](#) prior to the start of their final semester, so that graduation eligibility can be certified. Once the MRC is submitted, the Undergraduate Curriculum Assistant and the DUS's will review your curriculum plans and advise if changes need to be made.

### Program Planning for all Students

The department's [program goals](#) start with the development of a solid knowledge base in psychological science. Consistent with the value psychology places on empirical

evidence, courses at every level of the curriculum nurture the development of skills in research methods, quantitative literacy, and critical thinking, and foster respect for the ethical values that undergird the science of psychology.

Most of these [program goals](#) are introduced in [PSYC UN1001 THE SCIENCE OF PSYCHOLOGY](#), the recommended first psychology course required for all majors that satisfies the prerequisite for most 2000-level courses. These goals are extended and reinforced in our statistics (1600-level) and research methods (1400-level) research methods courses, as well as in the 2000-level lecture courses and 3000- and 4000-level seminars. Each of the 2000-level lecture courses enables students to study systematically, and in greater depth, one of the content areas introduced in [PSYC UN1001 THE SCIENCE OF PSYCHOLOGY](#). These lecture courses are the principal means by which psychology majors satisfy the distribution requirements, ensuring not only depth but also breadth of coverage across three central areas of psychology: (1) perception and cognition, courses in the 2200s, (2) psychobiology and neuroscience, courses in the 2400s, and (3) social, personality, and abnormal psychology, courses in the 2600s. To complete the major, students take one or more advanced seminars and are encouraged to participate in supervised research courses, where they have the opportunity to explore research questions in depth and further develop their written and oral communication skills.

## Course Numbering Structure

Course numbers reflect the structure of the Psychology curriculum:

- The 1000-level comprises introductions to psychology, introductory research methods courses, and statistics. [PSYC UN1001 THE SCIENCE OF PSYCHOLOGY](#) is an introductory course with no prerequisites, which can serve as the prerequisite for most of the 2000-level courses. [PSYC UN1021 Science of Psychology: Explorations and Applications](#) is an alternative version of [PSYC UN1001 THE SCIENCE OF PSYCHOLOGY](#) and fulfills the same requirements. The 1400s contain the research methods laboratory courses, and the 1600s contain statistics courses; these two course types are designed to prepare students to be able to understand, critique, and conduct the types of research found in many psychology and neuroscience labs.
- The 2000-level comprises lecture courses that are introductions to areas within psychology; most require [PSYC UN1001 THE SCIENCE OF PSYCHOLOGY](#) as a prerequisite.
- The 3000-level comprises more advanced and specialized undergraduate courses; most are given in a seminar format and require instructor permission.

- The 3900s are the courses providing research opportunities for undergraduates.
- The 4000-level comprises advanced seminars suitable for both advanced undergraduates and graduate students, and require instructor permission.

Subcategories within the 2000-, 3000-, and 4000-levels correspond to the three groups in our distribution requirement for undergraduate Psychology majors:

1. Perception and cognition (2200s, 3200s, and 4200s),
2. Psychobiology and neuroscience (2400s, 3400s, and 4400s), and
3. Social, personality, and abnormal psychology (2600s, 3600s, and 4600s).

Additionally, we designate Integrative and Applied courses using x800s (e.g., GU4880) and Advanced Topics in Psychology Research using the x900s (e.g., UN1910, UN1920, UN1930, UN1990, GU4930)

Note that Barnard psychology courses do not follow the same numbering scheme.

## Guidance for First-Year Students

Students with no prior psychology coursework should start by taking PSYC 1001 The Science of Psychology. PSYC 1001 or an equivalent introductory psychology course is a prerequisite to almost every other PSYC course, with the exception of PSYC 2630 Social Psychology.

Students who have taken an introductory psychology course may enroll in any PSYC course for which they meet the prerequisites. The best courses for students just starting out are a statistics course (PSYC 1610 is recommended) or any of the 2000-level PSYC lecture courses.

## Guidance for Transfer Students

Approval of transfer credits on a student's Entrance Credit Report toward general requirements for the B.A. degree does not grant approval of these credits toward the psychology major. Students must apply for written approval of transfer credit towards the major by submitting the [Major Requirement Substitution Form](#) and supporting documentation. This form, along with additional information about transfer credits can be found on the [Transfer Credit page of our website](#).

### Requirements for Transfer Courses

For a course taken outside of Columbia or Barnard to be able to count toward the Psychology Major or the Neuroscience & Behavior Major, the following must be true:

- The course should be substantially similar in content and/or learning objectives to one offered at Columbia.
- The course must have been approved for at least 3 points of credit by GS or CC.
- The grade received must be a B- or better.
- The course must have been taken for a grade (no P grades).
- The course must have been taken within the past 7 years.
- If a course taken at another institution overlaps with a course taken at Columbia, only one will be applied towards the major. Please consult your Program Advisor if you are considering registering for a Columbia or Barnard course that is similar to a transfer course you plan to count toward your major.

## **Psychology Major**

Up to 3 transfer courses may be applied toward the psychology major. Any transfer courses thus applied count toward the limit of 5 courses from outside the Columbia Psychology Department.

Students who have completed an introductory psychology course at another institution should submit a Major Requirement Substitution Request (see procedure, below) to verify whether or not this course meets departmental standards to count towards the major. If transfer credit toward the major is not approved, the student must enroll in PSYC UN1001 or PSYC BC1001 to complete this major requirement.

Statistics courses taken anywhere other than Columbia or Barnard may not count toward the major. Psychology majors will benefit from taking statistics here no matter how well they did in previous intro stats courses. If you are entering Columbia with extensive statistics coursework, your Program Advisor will help you find an appropriate advanced statistics course that can meet the Statistics Requirement of your major.

To count transfer courses toward a specific requirement of the major (e.g., Science of Psych; one of the Distribution Requirements), courses must have been taken fully in-person. Transfer courses taken online (or in hybrid format) are only eligible to count toward the elective portion of the major.

The Psychology Department allows students to meet the Science of Psychology requirement with a score of 5 on the AP Psychology exam, or a score of 7 on the Higher Level IB Psychology exam. The AP/IB Psychology exam does not count as a course or towards their program; students placing out of the Science of Psychology requirement in this way

will need to take an additional course to fulfill the required number of courses for their major.

College Board Advanced Placement (AP) statistics exam scores may not be used to satisfy the statistics requirement of the Psychology Major.

### **Psychology Concentration**

The same guidelines for transferring courses to count toward the Psychology Major apply to the concentration, except that the maximum number of transfer courses that may count toward the concentration is 2.

### **Neuroscience & Behavior Major**

The Neuroscience & Behavior major is co-sponsored by the Department of Psychology and the Department of Biological Sciences. In addition to one year of college general chemistry, eleven courses are required to complete the Neuroscience & Behavior major: seven from the Department of Biological Sciences and five from the Department of Psychology (commonly referred to as P1-P5). Please, consult [this page](#) for additional information on the major requirements for the Neuroscience and Behavior Major.

Students should consult their [Program Advisor](#) in the Psychology department before registering for psychology courses offered outside the department. With the Advisor's approval, a maximum of one psychology course from another institution, including Barnard, may be applied toward the psychology portion of the Neuroscience & Behavior major. Transfer courses taken in any modality (in-person, online, or hybrid) may be eligible to count toward P1. Transfer courses must have been taken fully in-person to be eligible to count for P2-P5. Students who wish to obtain credit for a course taken at Barnard or at another institution should complete the [Major Requirement Substitution Form](#). To be approved for the major, the course should be substantially similar to one offered by this department and approved for this major, and the grade received must be a C- or better if from Barnard, or B- or better if from another institution.

The Psychology Department allows students to meet the Science of Psychology requirement with a score of 5 on the AP Psychology exam, or a score of 7 on the Higher Level IB Psychology exam. The AP/IB Psychology exam does not count as a course or toward a student's points total for their program; students placing out of the Science of Psychology requirement in this way will need to take an additional course to fulfill the required number for their major.

Statistics courses taken anywhere other than Columbia or Barnard may not be counted toward the N&B major; AP Statistics also is not able to count toward the Statistics (i.e., P3) requirement. Students who have completed a statistics course elsewhere are encouraged to fulfill the P3 requirement

either with an intermediate/advanced stats course offered at Columbia, or by taking a PSYC UN1400-level research methods course.

## **UNDERGRADUATE PROGRAMS OF STUDY**

### **Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors**

#### **Double Majors/Concentrations**

All students attempting to complete double majors, double concentrations, or a combination of a major and a concentration should consult the college rules for double counting of [courses](#).

#### **Overlapping Courses**

Students cannot receive credit for two courses—one completed at Columbia and one at another institution (including Barnard)—if those courses have largely overlapping content. For example, PSYC UN1001 THE SCIENCE OF PSYCHOLOGY is similar in content to introductory psychology courses offered at many other institutions, including Barnard; only one such course will receive credit. Similarly, PSYC UN2630 SOCIAL PSYCHOLOGY and PSYC BC1138 Social Psychology have overlapping content; only one will receive credit. Please refer to the table of [Overlapping Courses](#) for a partial list of courses at Columbia and Barnard that are known to overlap.

#### **Grade Requirements for the Major**

A grade of C- or higher must be earned and revealed on the transcript in any Columbia or Barnard course, including the first, that is used to satisfy the major requirements. The grade of P is not accepted for credit towards the [Psychology major](#), [Psychology concentration](#), or [Neuroscience and Behavior major](#). Courses taken on a Pass/D/Fail basis may not be used to satisfy the major or concentration requirements unless the grade of P is uncovered by the Registrar's deadline. Students may petition to have their P/D/F grades uncovered after the registrar's deadline for the following three courses only: PSYC UN1001 Science of Psychology, PSYC UN1010 Mind, Brain, & Behavior (no longer offered), and PSYC UN1610 Introductory Statistics for Behavioral Scientists. Courses taken for a P grade may not be used to satisfy the major or concentration requirements, except for P grades earned in the Spring 2020 semester.

#### **Major Requirement Checklist**

Prior to the start of their final semester, all seniors must submit a [Major Requirement Checklist](#) showing all major courses they have taken and those they plan to take. The Psychology department evaluates each checklist to determine whether or not the course plan completes the

major requirements and then notifies the student accordingly. If the student's course plan changes, or if it does not satisfy the major requirements, a revised checklist must be submitted. Departmental approval of an accurate and up-to-date checklist will help ensure completion of all major requirements on time for graduation.

## Major in Psychology

Please read Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors (p. ) above.

### Major Requirements

Students must complete 11 courses in Psychology or an approved cognate discipline. To count toward the major, a course must be taken for 3 or more points. At least 6 of the 11 courses must be in the Columbia Psychology Department.

These 11 courses must include:

1. Introductory Psychology Course
2. One Statistics course
3. One Research Methods course
4. One Group I Course
5. One Group II Course
6. One Group III Course
7. One course meeting the Seminar requirement
8. One course meeting the integrative/applied Special Elective requirement
9. Enough PSYC electives to complete 11 courses

Each course may fulfill only one of these major requirements. See below for details on each of these requirements.

### The Introductory Psychology Course

- PSYC UN1001 THE SCIENCE OF PSYCHOLOGY

### A Statistics Course

Select one of the following:

- PSYC UN1610 STATISTICS-BEHAVIORAL SCIENTISTS
- PSYC UN1660 Advanced Statistical Inference
- STAT UN1001 INTRO TO STATISTICAL REASONING
- STAT UN1101 INTRODUCTION TO STATISTICS (formerly STAT W1111)

- STAT UN1201 CALC-BASED INTRO TO STATISTICS (formerly STAT W1211)

### A Research Methods Course

Select one of the following:

- PSYC UN1420 RESEARCH METHODS - HUMAN BEHAVIOR
- PSYC UN1450 RESEARCH METHODS - SOCIAL COGNITION # EMOTION
- PSYC UN1455 RESEARCH METHODS: SOCIAL/ PERSONALITY
- PSYC UN1490 RESEARCH METHODS - COGNITION/DECISION MAKING

Majors are strongly advised to complete the statistics and research methods requirements, in that order, by the end of their junior year. Students are advised to verify the specific prerequisites for research methods courses, most of which require prior completion of a statistics course.

### Distribution Requirement

One course (3 points or more) must be taken from each of the following three groups (in addition to the introductory, statistics, and research methods courses described above):

- Group I—Perception and cognition: courses numbered in the 2200s, 3200s, or 4200s.
- Group II—Psychobiology and neuroscience: courses numbered in the 2400s, 3400s, or 4400s. Also PSYC UN1010 Mind, Brain and Behavior (no longer offered).
- Group III—Social, personality, and abnormal: courses numbered in the 2600s, 3600s, or 4600s.

Research Methods courses do not fulfill any of the Group distribution requirements.

### Seminar Requirement

Students must complete one course meeting the Seminar requirement. A seminar course must be taken for 3 or more points.

All courses offered through the Columbia Psychology Department and numbered in the 3200s, 3400s, 3600s, 4200s, 4400s, and 4600s count toward the seminar requirement. Not all Barnard courses taught in a seminar format fulfill this requirement—see Barnard Courses, below, for more information.

Seminars are usually taken in the junior and senior year as a culmination of the major program, but any students who have met the prerequisites and gain the instructor's permission to join the course may enroll. Enrollment in all



seminar courses requires the instructor's permission; students are advised to contact instructors at least one month prior to registration to request seminar admission. Note that honors, senior thesis research intensive, and supervised individual research courses ([PSYC UN3910 HONORS SEMINAR](#), [PSYC UN3920 HONORS RESEARCH](#), [PSYC UN3930 Senior Thesis Advanced Research Seminar](#), and [PSYC UN3950 Supervised Individual Research](#)) will not meet the seminar requirement.

For those completing the new major requirements, no course may be counted twice in fulfillment of the above major requirements: separate courses must be taken to fulfill the seminar requirement and each distribution group.

### Special Elective

The Special Elective encompasses a wide range of courses: those that cut across and connect different sub-disciplines within psychology; those that integrate psychology with other disciplines; those that apply psychology to real-world problems; those that dig deeper into advanced statistics and methods topics; and those that offer hands-on experience with psychology research.

The courses listed [here](#) are pre-approved to count toward the Special Elective requirement. If you would like to count a course that does not appear on the list, please contact your [Program Advisor](#) prior to enrolling.

### Electives

Additional psychology courses ("electives") must be taken for a total of 11 courses.

Once a student has met the specific requirements of the major, any other psychology or approved cognate courses that they take to complete the 11-course minimum are considered electives.

As described below, these may include a limited number of research courses, transfer courses, and Barnard psychology courses not approved for specific requirements.

No course may be counted twice in fulfillment of the above major requirements.

### **Old Major Requirements (for students who entered Columbia prior to Fall 2020)**

Students must complete 30 or more points to complete the Psychology Major. Those 30 points must include:

1. Introductory Psychology Course
2. One Statistics course
3. One Research Methods course
4. One Group I Course

5. One Group II Course
6. One Group III Course
7. One course meeting the Seminar requirement
8. Enough PSYC electives to complete 30 points

## Major in Neuroscience and Behavior

Please read [Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors](#) above.

The department cosponsors an interdepartmental major in neuroscience and behavior with the Department of Biological Sciences. For assistance in planning the psychology portion of the neuroscience and behavior major, refer to the [Program Planning Tips website](#) and use the appropriate [major requirement checklist](#).

No course may be counted twice in fulfillment of the biology or psychology requirements described below. Many graduate programs in neuroscience also require one year of calculus, one year of physics, and chemistry through organic.

### Required Courses

In addition to one year of college general chemistry, eleven courses are required to complete the major—six from the Department of Biological Sciences and five from the Department of Psychology. For the definitive list of biology requirements, see the [Department of Biological Sciences website](#).

\*NOTE: For students entering in Fall 2024 or later, two biology elective courses will be required. For students entering prior to Fall 2024, one biology elective course will be required.

### Required Chemistry Courses

One year of college chemistry is required prior to taking Introductory Biology.

### Required Biology Courses

1. [BIOL UN2005](#) INTRO BIO I: BIOCHEM, GEN, MOLEC
2. [BIOL UN2006](#) INTRO BIO II: CELL BIO, DEV/PHYS
3. [BIOL UN3004](#) NEUROBIO I: CELLULAR # MOLECULR
4. [BIOL UN3005](#) NEUROBIO II: DEVPT # SYSTEMS
5. Two additional 3000- or 4000-level biology course from a [list approved by the biology adviser](#) to the program.  
\*NOTE: For students entering in Fall 2024 or later, two biology elective courses will be required. For students entering prior to Fall 2024, one biology elective course will be required.\*



## Required Psychology Courses

1. PSYC UN1001 THE SCIENCE OF PSYCHOLOGY
2. PSYC UN2430 COGNITIVE NEUROSCIENCE or PSYC UN2450 BEHAVIORAL NEUROSCIENCE or PSYC UN2470 Fundamentals of Human Neuropsychology
3. One statistics or research methods course from the following:
  - PSYC UN1420 RESEARCH METHODS - HUMAN BEHAVIOR
  - PSYC UN1450 RESEARCH METHODS - SOCIAL COGNITION # EMOTION
  - PSYC UN1455 RESEARCH METHODS: SOCIAL/ PERSONALITY
  - PSYC UN1490 RESEARCH METHODS - COGNITION/DECISION MAKING
  - PSYC UN1610 STATISTICS-BEHAVIORAL SCIENTISTS
  - PSYC UN1660 Advanced Statistical Inference
  - PSYC UN1920 The How-Tos of Research
  - PSYC UN1950 Neuroscience Methods: Cells and Circuits
  - STAT UN1101 INTRODUCTION TO STATISTICS (formerly STAT W1111)
  - STAT UN1201 CALC-BASED INTRO TO STATISTICS (formerly STAT W1211)
  - Please note, STAT UN1001 does not count towards the Neuroscience & Behavior major.
4. One additional 2000- or 3000-level psychology lecture course from the approved list [here](#).  
\*Please make careful note of this list, as courses not listed here will not count towards the P4 requirement.
5. One advanced psychology seminar from the approved list [here](#)

Note: Students wishing to use a seminar course not listed above to meet the P5 seminar requirement must contact their psychology adviser before enrolling to request permission for an exception. Generally speaking, permission for such exceptions is only granted when there is a compelling case related to the student's research or area of study. Students requesting permission to use a course not on this list must ensure that their substantive coursework in the seminar

(generally their final paper) is on a neuroscience-focused topic.

## Exceptions to Biology Requirements

Any exceptions must be approved in advance by a biology adviser and students must receive an email notification of that approval. Students may substitute Barnard College courses only with prior permission from a Biology Department adviser.

## A note on double counting and multiple programs

All students attempting to complete double majors, double concentrations, or a combination of a major and a concentration should consult the college rules for double counting of [courses](#). The psychology department does not place additional restrictions on double counting. Students with questions about double counting should consult their academic advisor. Psychology program advisors do not advise about double counting.

Students may not double-major in both Psychology and Neuroscience & Behavior, since both of these programs are housed in the same department.

Because of the overlap between the Cognitive Science major and both Psychology and Neuroscience & Behavior, students should not plan to pursue a double major in those two programs.

## Minor in Psychology

The Psychology Department does not currently offer any minors.

SEAS students pursuing a minor in Psychology should consult with their SEAS advisors; the Columbia Psychology Department does not administer that program.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Psychology

Please read [Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors](#) above.

### Concentration Requirements

Students must complete 7 courses in Psychology or an approved cognate discipline. To count toward the concentration, a course must be taken for 3 or more points. The following requirements must be met:

1. PSYC UN1001 THE SCIENCE OF PSYCHOLOGY
2. A Statistics or Research Methods course (PSYC UN1610 STATISTICS-BEHAVIORAL SCIENTISTS, STAT UN1001

INTRO TO STATISTICAL REASONING, [STAT UN1101](#)  
INTRODUCTION TO STATISTICS, [STAT UN1201](#)  
CALC-BASED INTRO TO STATISTICS, or a Research  
Methods course in the PSYC 14xx's)

3. Either 3 courses in one group, or 1 course in each of the 3 groups: Group I - Cognition & Perception; Group II - Psychobiology & Neuroscience; Group III - Social, Personality, & Abnormal
4. Additional elective courses in psychology to complete the 7-course requirement

Restrictions on research credits, Barnard credits, non-psychology courses, and transfer credits are modified from those of the psychology major as follows:

- No more than 2 transfer courses from other institutions can be applied toward the concentration.
- No more than 3 total courses from outside Columbia (Barnard and/or transfer) can be applied to the concentration.
- A maximum of 1 non-PSYC course can count toward concentration requirements (e.g., courses taken in the Statistics Department; cognate courses offered through Philosophy, Business, Law, etc.).
- No more than 1 semester of [PSYC UN3950](#) SUPERVISED INDIVIDUAL RESEARCH or other supervised research course (taken for 3 or 4 points) can count towards the concentration.

Except as noted above, other regulations outlined in the [Psychology Major section](#) regarding grades, transfer credits, and overlapping courses also apply toward the Psychology Concentration.

Old Concentration Requirements (for students entering Columbia prior to Fall 2020)

A [concentration in psychology](#) requires a minimum of 18 points, including [PSYC UN1001](#) THE SCIENCE OF PSYCHOLOGY or [PSYC UN1021](#) Science of Psychology: Explorations and Applications and courses in at least two of the three groups listed under “Distribution Requirement” for the psychology major.

Restrictions on research credits, Barnard credits, and transfer credits are modified from those of the psychology major as follows:

1. Only 4 points total may be applied toward the concentration from research or field-work courses, including: [PSYC UN3950](#) Supervised Individual Research, [PSYC UN3920](#) HONORS RESEARCH [PSYC BC3466](#) FIELD WORK # RESEARCH SEMINAR: TODDLER CENTER, [PSYC BC3473](#) CLINICAL

FIELD PRACTICUM, [PSYC BC3592](#) Senior Research Seminar, and [PSYC BC3599](#) Individual Projects;

2. Only 5 points from Barnard (including [PSYC BC1001](#) INTRODUCTION TO PSYCHOLOGY) may be applied toward the concentration.
3. Only 5 points total (including any Barnard points) from approved psychology courses taken at other institutions may be applied toward the concentration

Barnard Lab courses do not count towards the Research Methods requirement of the Psychology Major or Concentration.

## PUBLIC HEALTH SPECIAL PROGRAM IN PUBLIC HEALTH

**Director of Undergraduate Programs:** Dana March Palmer  
PhD, MPH | 405 Low Memorial Library | 212 854 3835  
| [dm2025@columbia.edu](mailto:dm2025@columbia.edu)

## FACULTY

[James Colgrove](#)

[Linda Fried](#)

[Dana March Palmer](#)

[Terry McGovern](#)

[Rachel Moresky](#)

[Ana Navas-Acien](#)

[Anne Paxton](#)

[Marni Sommer](#)

## SPECIAL PROGRAM IN PUBLIC HEALTH

The special program, comprising a **minimum of 25 points** of coursework, consists of **five required courses (16 points)** and **at least three electives (minimum of 9 points)** that provide additional depth and dimension to the underlying themes of the concentration.

## Core Public Health Course Requirements

The required courses create a rich intellectual foundation in public health, providing students with a multifaceted view of the social production of health, as well as an integrated exposure to and understanding of the core disciplines of public health. Together, they serve to illuminate and allow students to analyze critically the social production of health

and its connections with and implications for civil society. These courses have no prerequisites, and can be taken individually, as the student's schedule permits.

## Required Courses for the Special Program in Public Health

PUBH UN3100	FUNDAMENTALS OF GLOBAL HEALTH
PUBH UN3200	INTRODUCTION TO PUBLIC HEALTH
PUBH GU4100	(Y)OUR LONGER LIFE
PUBH GU4200	Environment, Health, and Justice: Concepts and Practice
HSPB UN2950	Social History of U.S. Public Health

## Elective Courses

Elective courses (minimum of 9 points) in the Special Program in Public Health will allow students to draw upon courses offered in a wide range of departments and centers across the University. Proposed electives must be approved by the Director of Undergraduate Studies.

Examples of departments with relevant elective courses include: African American Studies; Comparative Literature and Society; The Center for Ethnicity and Race; Earth and Environmental Sciences; Economics; Ecology, Evolution, and Environmental Biology; History; Human Rights; History of South East Asia; Political Science; Psychology; Sociology; Statistics; Sustainable Development; Women's Studies; Urban Studies. Elective courses are designed to allow students to add dimension and depth to their interests in public health, along the main themes of the Special Program. Electives may also allow students to amplify the connections to public health in their major area of study. Conversely, students may choose to take electives that allow them to gain more breadth in concepts to which they have been exposed in the set of required public health courses.

## Elective Examples (At least 3)

### Population Health, Inequality, and Society

AFAS GU4035	Criminal Justice and the Carceral State in the 20th Century United States
CPLS GU4320	Marginalization in Medicine: A Practical Understanding of the Social Implications of Race
CPLS GU4220	Narrative, Health, and Social Justice
CSER UN3445	City, Environment, and Vulnerability
CSER UN3905	ASIAN AMERICAN # PSYCH OF RACE
CSER UN3924	Latin American and Latina/o Social Movements

CSER UN3942	RACE AND RACISMS
CSER GU4340	Visionary Medicine: Racial Justice, Health and Speculative Fiction
CSER GU4482	INDIGENOUS PEOPLES:MOVEMNT/RTS
CSER GU4483	SUBCITIZENSHIP
ECON GU4438	ECONOMICS OF RACE IN THE U.S.
EEEB GU4321	HUM NATURE:DNA,RACE # IDENTITY
HIST UN2523	HEALTH INEQUALITY: MODERN US
HIST UN3437	CORP BEHAVIOR # PUBLIC HEALTH
HIST UN3911	Medicine and Western Civilization
HIST W4985	Citizenship, Race, Gender and the Politics of Exclusion
HIST GU4584	Drug Policy and Race
HIST GU4588	RACE, DRUGS, AND INEQUALITY
HRTS BC3850	HUMAN RIGHTS # PUBLIC HEALTH
HRTS GU4215	NGOs # THE HUMAN RIGHTS MOVEMENT
HRTS GU4230	REFUGEES, FORCED MIGR # DISPLACEMENT
HRTS GU4500	SOCIO-ECONOMIC RIGHTS
HRTS GU4700	Ethical Dilemmas in Healthcare: A Human Rights Approach
HRTS GU4880	HUMAN RIGHTS IN THE UNITED STATES
POLS UN3220	LOGIC OF COLLECTIVE CHOICE
POLS UN3245	RACIAL AND ETHNIC POLITICS
POLS UN3595	Social Protection Around the World
SOCI V2230	Food and the Social Order
SOCI W2420	Race and Place in Urban America
SOCI UN3010	METHODS FOR SOCIAL RESEARCH
SOCI UN3213	Sociology of African American Life
SOCI W3214	Immigration and the Transformation of American Society
SOCI UN3261	Sexuality and Society
SOCI UN3265	SOCIOLOGY OF WORK # GENDER
SOCI UN3323	RACE, GNDR, SXLTY# PNSHMNT
SOCI W3643	Stratification and Inequality

SOCI W3913	Race and Ethnicity in a Global World
SOCI UN3914	INEQUALITY, POVERTY # MOBILITY
WMST GU4506	Gender Justice
SOCI UN3915	Stigma and Discrimination
SOCI UN3920	SOCIAL NETWORKS
SOCI UN3931	Sociology of the Body
SOCI W3923	Adolescent Society
SOCI UN3960	SEMINAR - PROBLEMS OF LAW # SOCIETY

### Globalization, Urbanization, Development, and the Environment

EEEB GU4127	DISEASE ECOLOGY
EEEB GU4111	Ecosystem Ecology and Global Change
EEEB GU4260	FOOD, ECOLOGY # GLOBALIZATION
EESC UN2330	SCIENCE FOR SUSTAINABLE DEVPT
EESC W4403	Managing and adapting to climate change
EESC GU4600	EARTH RESOURCES # SUSTAIN DEV
FSPH UN1100	FOOD, PUBLIC HEALTH # PUBLIC POLICY
HIST GU4811	Encounters with Nature: The History and Politics of Environment, Health and Development in South Asia and Beyond
HRTS GU4915	HUMAN RIGHTS # URBAN PUB SPACE
HSEA GU4844	GLOBAL HONG KONG
SDEV UN2300	CHALLENGES OF SUSTAINABLE DEV
SDEV UN3330	Ecological and Social Systems for Sustainable Development
SDEV UN3350	(Environmental Policy and Governance for Sustainability)
SDEV UN3355	CLIMATE CHANGE AND LAW
SDEV UN3360	DISASTERS AND DEVELOPMENT
SDEV UN3400	HUMAN POPULATIONS # SDEV
SDEV UN3410	Cities # Sustainability
SDEV GU4050	US WATER # ENERGY POLICY
SOCI UN3324	Global Urbanism
URBS UN3450	NEIGHBORHOOD # COMMUNITY DVLP
URBS UN3993	URBAN STUDIES SENIOR SEMINAR

URBS UN3565	Cities in Developing Countries: Problems and Prospects
URBS UN3315	METROPOLITICS OF RACE # PLACE
URBS UN3550	Community Building and Economic Development
URBS UN3565	Cities in Developing Countries: Problems and Prospects

### Individuals, Bodies, and Population Health

FSEB UN1020	Food and the Body
PSYC UN2460	DRUGS AND BEHAVIOR
PSYC UN2480	The Developing Brain (The Developing Brain)
PSYC UN2650	INTRO TO CULTURAL PSYCHOLOGY

### Quantitative Foundations

STAT UN1001	INTRO TO STATISTICAL REASONING
STAT UN1101	INTRODUCTION TO STATISTICS

## REGIONAL STUDIES EAST CENTRAL EUROPEAN CENTER

<http://ece.columbia.edu/>

**Director:** Prof. Jessica Merrill, [jem2159@columbia.edu](mailto:jem2159@columbia.edu)

**Related Departments:** Anthropology, Economics, History, Political Science, Slavic Languages and Literatures, and Sociology.

**Language Requirement:** Two years or demonstrated reading knowledge of one of the following languages: Czech, Hungarian, Polish, Romanian, Russian, Bosnian/Croatian/Serbian, or Ukrainian.

The regional studies major is designed to give undergraduates the general mastery of a discipline and at the same time permit them to do specialized work in the history and cultures of a particular geographic area through the associated institutes of the Faculty of Arts and Sciences. It is an interdisciplinary major in which students divide their work between the associated institute and an appropriate academic department. Students plan their programs with the consultant of the associated institute they have selected.

### MAJOR IN REGIONAL STUDIES

The major in regional studies requires a minimum of 36 points, of which 18 must be credited by the associated institute, i.e. East Central European Center, and an additional 18 must be in one of the College departments designated as relevant by the institute. Six points of seminar work



approved by the institute are required of all majors and are included in the total of 36 points.

## Language Study

Courses taken to satisfy the institute's language requirement are not counted toward the 18 institute points.

# RELIGION

## THE RELIGION DEPARTMENT:

Department website: <https://religion.columbia.edu/>

Office location: 80 Claremont, Suite 103

Office contact: 212-854-4122

Director of Undergraduate Studies: Professor Yannik Thiem, 80 Claremont; 212-851-4128; [yannik.thiem@columbia.edu](mailto:yannik.thiem@columbia.edu)

Undergraduate Administrator: NA

## THE STUDY OF RELIGION

The Religion Department's curriculum is designed to engage students in critical, comparative, and interdisciplinary exploration of religious worlds and phenomena in a variety of contexts and at the intersection with various dimensions of culture (such as race, gender, sexuality, class, disability, politics, ethics, popular culture, museums, media, technology). The curriculum aims to prepare students to contribute actively to timely discussions about religion, religious difference, and its roles in a globally connected world.

Apart from preparing for graduate education in religion and adjacent fields, majors, concentrators, and minors also find the Study of Religion to provide them with relevant background and skills for careers in a variety of fields: Education, media, computer science, law, business, medicine, and social work. Religion course offerings are designed to meet the varying needs and interests of students, from those wishing to explore a few topics to complement their other studies or to fulfill global core requirements, to those interested in pursuing a minor or major in Religion.

## STUDENT ADVISING

### Consulting Advisers

Professor Yannik Thiem, 80 Claremont; 212-851-4128; [yannik.thiem@columbia.edu](mailto:yannik.thiem@columbia.edu)

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

All majors are encouraged to pursue both depth and breadth by constructing a program of study in consultation with the Director of Undergraduate Studies and with a member of the faculty in an area in which they have particular interest. The program should include courses in a variety of religious traditions.

## Senior Thesis Coursework and Requirements

Students who write a senior thesis may include a term of individually supervised research as one of the courses for their major.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Students who write a senior thesis and maintain a GPA of 3.66 or above in the major may be considered for departmental honors. Writing a senior thesis qualifies a student for consideration for departmental honors but does not assure it. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

### Academic Prizes

The Peter Awn Undergraduate Prize is awarded annually to the most outstanding paper or substantial project submitted by an undergraduate in any course or seminar in Religion in the prior year.

## PROFESSORS

Gil Anidjar  
Courtney Bender  
Beth Berkowitz (Barnard)  
Elizabeth Castelli (Barnard)  
Matthew Engelke (Chair)  
Najam Haider (Barnard)  
John Hawley (Barnard)  
Rachel McDermott (Barnard)  
David (Max) Moerman (Barnard)  
Josef Sorett

### Associate Professors

Clémence Boulouque  
Michael Como  
Gale Kenny (Barnard)  
Dominique Townsend  
Yannik Thiem (DUS)

## ASSISTANT PROFESSORS

Tiffany Hale (Barnard)  
Aziza Shanazaraova



Timothy Vasko (Barnard)  
Zhaohua Yang

## ADJUNCT FACULTY

Justine Esta Ellis (IRCPL)  
Obery Hendricks  
David Kittay  
Ebad Rahman  
Thomas Yarnall

## POSTDOCTORAL FELLOWS

Raffaella Taylor-Seymour (IRCPL)  
Andrew Jungclaus

## PROFESSORS EMERITI

Bernard Faure  
Katherine Pratt Ewing  
Wayne Proudfoot  
George Rupp  
Robert Somerville  
Mark Taylor  
Robert Thurman  
Chun-fang Yu

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Course Numbering Structure

The numbering structure indicates primarily different orientations of the courses. Students pursuing a degree in Religion are not expected to take courses sequentially moving from lower number courses to higher number courses.

Generally, only 4000-level-advanced seminar courses expect students to have completed some prior coursework in Religion or adjacent relevant fields.

Courses are numbered by level and type:

1000-level: Gateway lecture course on "How to think about and with 'religion' as a category of inquiry"

2000-level: Courses surveying strands of studying religious practice specified by

- Geography (e.g. China)
- Historical period (e.g. Colonial North America)
- Communities (e.g. Judaism)
- Thematics (e.g. magic, gender, capitalism)

3000-level: Intermediate courses focusing on a particular topic in a specific context

4000-level: Advanced seminar focusing on a particular topic, involving student research. (Typically students complete at least one other course in Religion and parts of the Core before taking a seminar. But if there is a seminar

that is of special interest to you, contact the DUS and/or instructor and ask. You might be a good fit.)

### Guidance for First-Year Students

There will be an orientation meeting for prospective and new minors in the fall and spring and fall. At these meetings peers and faculty will be available for consultations. As the faculty member who is currently advising and certifying majors and concentrators, the DUS will also take on the ongoing advising and the certification for graduation of the students minoring in Religion.

The Columbia Minor in Religion follows a nodal curriculum, which makes it possible for students to enter the program at any point.

### Guidance for Transfer Students

Students may apply to count up to two courses of transfer credit toward fulfilling the Department of Religion requirements. Requests are reviewed and granted by the DUS.

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

- 1 gateway course (1000 level)

### Major in Religion

All majors are encouraged to pursue both depth and breadth by constructing a program of study in consultation with the Director of Undergraduate Studies. The program should include courses in a variety of religious traditions. Students who write a senior thesis may include a term of individually supervised research as one of the courses for their major.

#### Courses

For the major the following 9 courses are required:

- 1 gateway course (1000 level)
- 2 introductory courses (2000 level)
- 2 intermediate courses (3000 level)
- 2 seminars (4000 level)
- 1 additional course at any level
- RELI UN3199 Theory (Columbia students should to take Theory through the Columbia Religion Department offered every Fall Semester)

Students majoring in Religion at Columbia are expected to take their RELI UN3199 Theory requirement at Columbia

(offered every fall). For the remaining eight courses, any course listed as RELI offered at Columbia or Barnard may be counted toward the Major in Religion. There is no limitation on how many courses taken at Barnard can be counted toward the Minor in Religion at Columbia.

Requests for counting courses taken outside of Religion to be counted toward fulfilling the Department of Religion requirements are reviewed and granted by the DUS on a case-by-case basis.

## Minor in Religion

All Minors in Religion are encouraged to pursue their interests in the Study of Religion as it best complements their other studies at Columbia by constructing a program of study in consultation with the Director of Undergraduate Studies.

### Courses

The Minor in Religion consists of five (5) courses (min. 16 points) in Religion:

- One (1) course at the 1000-level (alternatively RELI UN3199 Theory can count toward this requirement)
- Four (4) courses of any level, it is strongly recommended that students include one seminar among these electives.

Any course listed as RELI offered at Columbia or Barnard may be counted toward the Minor in Religion. There is no limitation on how many courses may be taken at Barnard can be counted toward the Minor in Religion at Columbia.

### Transfer Credits

Students may apply to count up to one course of transfer credit toward fulfilling the Department of Religion requirements. Requests are reviewed and granted by the DUS.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Religion

To be planned in consultation with the Director of Undergraduate Studies and with a member of the faculty in an area in which the student has a particular interest. The program should include some study in a Variety of topics and traditions in the study of religion.

### Courses

For the concentration the following 7 courses are required:

- 1 Gateway Course at the 1000-level
- 2 Courses at the 2000-level
- 2 Courses at the 3000 level

- 1 Seminar at the 4000-level
- RELI UN3199 Theory

Students pursuing a Concentration in Religion at Columbia are expected to take their RELI UN3199 Theory requirement at Columbia (offered every fall). For the remaining six courses, any course listed as RELI offered at Columbia or Barnard may be counted toward the Concentration in Religion. There is no limitation on how many courses taken at Barnard can be counted toward the Concentration in Religion at Columbia.

Students may apply to count up to two courses taken outside of Religion toward fulfilling the Department of Religion requirements. Requests are reviewed and granted by the DUS on a case-by-case basis.

### Transfer Credits

Students may apply to count up to one course of transfer credit toward fulfilling the Department of Religion requirements. Requests are reviewed and granted by the DUS.

## RUSSIAN LANGUAGE AND CULTURE

### THE DEPARTMENT OF SLAVIC LANGUAGES

Department website: <http://www.columbia.edu/cu/slavic/>

Office location: 708 Hamilton Hall

Office contact: 212-854-3941

**Director of Undergraduate Studies:** Prof. Adam Leeds, 715 Hamilton Hall; [al3604@columbia.edu](mailto:al3604@columbia.edu)

### Language Program Directors:

**Bosnian, Serbian, and Croatian:** Aleksandar Boskovic; [ab3865@columbia.edu](mailto:ab3865@columbia.edu)

**Czech:** Christopher W. Harwood; [cwh4@columbia.edu](mailto:cwh4@columbia.edu)

**Polish:** Christopher J. Caes; [cc4038@columbia.edu](mailto:cc4038@columbia.edu)

**Russian:** Marina N. Tsylyna; [mt3750@columbia.edu](mailto:mt3750@columbia.edu)

**Ukrainian:** Yuri I. Shevchuk; [sy2165@columbia.edu](mailto:sy2165@columbia.edu)

## THE STUDY OF SLAVIC AND EASTERN EUROPEAN LANGUAGES AND CULTURES

The Department of Slavic Languages and Literatures is devoted to the study of the cultures, literatures, and languages of Russia and other Slavic peoples and lands. We approach our study and teaching of these cultures with an eye to their specificity and attention to their interaction with other cultures, in history and in the contemporary global context. We focus not only on the rich literary tradition, but also on the film, theater, politics, art, music, media, religious thought, critical theory, and intellectual history of Russians and other Slavs. Our approach is interdisciplinary.

Students who take our courses have different interests. Many of our courses are taught in English with readings in English and have no prerequisites. As a consequence, our majors and concentrators are joined by students from other literature departments, by students of history and political science who have a particular interest in the Slavic region, and by others who are drawn to the subject matter for a variety of intellectual and practical reasons.

We provide instruction in Russian at all levels (beginning through very advanced), with a special course for heritage speakers. To improve the proficiency of Russian learners and speakers, we offer a number of literature and culture courses in which texts are read in the original and discussion is conducted in Russian. We offer three levels of other Slavic languages: Bosnian-Croatian-Serbian, Czech, Polish, and Ukrainian (with additional courses in culture in English). All language courses in the Slavic Department develop the four basic language skills (speaking, listening, reading, and writing) and cultural understanding.

Our department prides itself on the intellectual vitality of its program and on the sense of community among students and faculty. As they explore Russian and Slavic languages, literatures, and cultures, students develop not only their specific knowledge and cultural understanding, but also the capacity for critical thought, skills in analyzing literary and other texts, and the ability to express their ideas orally and in writing. Our graduates have used their knowledge and skills in different ways: graduate school, Fulbright and other fellowships, journalism, publishing, law school, NGO work, public health, government work, and politics. Our faculty is proud of its students and graduates.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Senior Thesis Coursework and Requirements

A senior thesis is not required for any Slavic major. Students who wish to undertake a thesis project should confer with the director of undergraduate studies during

the registration period in April of their junior year and register to take [RUSS UN3595 SENIOR SEMINAR](#) in the fall term of their senior year. Students can opt to expand the thesis into a two-semester project register for [RUSS UN3998 SUPERVISED INDIVIDUAL RESEARCH](#), with their thesis adviser, in the spring term of their senior year. Senior Seminar may satisfy one elective requirement; the optional second semester of thesis work adds one course to the 15 required for the major

## Undergraduate Research Outside of Courses

The Harriman Institute provides financial support towards research projects and travel for undergraduate students from Barnard College, Columbia College, and the School of General Studies through a variety of grants and fellowship awards. Please consult the Harriman website for more information.

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Students who have a grade point average of at least 3.6 in courses taken for the major and who have submitted a senior thesis of outstanding quality will be considered for departmental honors. Normally no more than 10 percent of the graduating majors may be awarded departmental honors in any given year. For more information, consult the Director of Undergraduate Studies no later than the change-of-program period in the fall term of your senior year.

### Academic Prizes

#### Robert A. Maguire Prize in Slavic Studies

A cash prize awarded annually to an undergraduate of high academic distinction and promise in an area of study concerned with Russian or another Slavic culture, including literature, music, art, religion, or cultural history. Established in honor of Professor Robert A. Maguire.

The award is meant to perpetuate Professor Maguire's legacy and to ensure that his name remains a prominent feature in the landscape of Slavic Studies at Columbia.

That Robert Maguire's legacy should be associated with excellence seems more than appropriate. Robert Maguire's standards were the highest, and he held himself to them above all. Extraordinary language proficiency, scrupulous analysis of both the words on the page and the culture behind each word, inspired interpretation, and luminous writing were the hallmarks of his work. The Maguire Prize identifies these qualities with Robert Maguire and honors the remarkable students who attain them not only with a tangible award but by linking their names with his. Robert Maguire made the Columbia department one of the top Slavic departments in the country. By awarding a prize bearing his name to the top student in that department,

we recognize both the student's achievements and Robert Maguire's.

Importantly, the Robert A. Maguire Prize will be available to students not only in Russian literature and not only in Slavic literatures more broadly, but also in the other disciplines that address those cultures. Robert Maguire himself was as accomplished in Polish as he was in Russian, and his commitment to music was as profound as his love of language and literature. Even beyond his own breadth, though, lies Robert Maguire's conviction that no single aspect of a culture exists in isolation; he team-taught courses with historians, he educated himself in Slavic religious culture, and he worked for years on the relationship between word and visual image. It is reasonable to assume that he would want a prize bearing his name to include rather than exclude the fields adjacent to his own.

### **Pushkin Poetry Prize**

The Pushkin Poetry Prize, which is funded by a 1958 bequest of Dr. John Paul Mihaly, is awarded for the best translation of a Russian poem into English. Both graduate and undergraduate students are eligible. You may submit one or two short poems or one extended poem. (Collaborative translations are allowed if both translators are Columbia students.)

The amount of the award is \$250. A panel of two judges will review the translations, and the winner will be announced at the end of the academic year.

### **Dobro Slovo**

Dobro Slovo was established at UC Berkeley on October 29, 1926, to recognize academic achievements of Slavic students. In 1963 the National Slavic Honor Society – Dobro Slovo – was founded with the help and encouragement of the American Association of Teachers of Slavic and East European Languages (AATSEEL). The present-day Society recognizes the academic excellence of students studying Slavic languages and literatures and helps to foster scholarly interest in Slavic life and culture.

There are now over 130 local chapters with a total membership of 6,200. Dobro Slovo serves as a means for the recognition of academic excellence in the study of Slavic languages, literature, history, and culture. The Society serves as an incentive for scholarly interest in Slavic life and culture. The National Slavic Honor Society has been patterned after other existing honorary organizations. The Key of the Society is as representative of academic excellence in Slavic studies as the Phi Beta Kappa is for academic studies as a whole.

Qualifications for student membership are:

1. The student must have completed two years (or equivalent) of study of Slavic languages, literature, culture,

or related subjects with a minimum average grade of 85% (B) or its letter or point equivalent.

2. The minimum overall academic average should be 80% (B) or its letter or point equivalent

3. The student must indicate an active and continuing interest in Slavic languages, literature, culture or related fields of Slavic studies.

The Chapter Faculty Advisor is responsible for determining the eligibility of all candidates.

Members receive:

National recognition for academic excellence

Personalized Membership Card

8 ½ x 11 Membership Certificate (suitable for framing)

A Society Pin

## **OTHER IMPORTANT INFORMATION**

### **Slavic Culture at Columbia Outside of the Classroom**

All interested students are welcome to take part in departmental activities, such as conversation hours, Slavic student organizations, the department's various film series (Russian, East Central European, Central Asian, and Ukrainian), and the country's first undergraduate journal of Eastern European and Eurasian Culture, *The Birch*. The Slavic Department has close ties to the Harriman Institute and the East Central European Center, which sponsor lectures, symposia, performances, and conferences.

### **Study and Research Abroad**

The Slavic Department strongly encourages all students to spend a semester, summer, or year abroad if at all possible. A summer or a semester studying in an academic institution in your target country can be extraordinarily rewarding, not only for your language proficiency but for learning firsthand about the country's culture and intellectual life. If Russian is your focus, you can now choose from a vast array of programs in cities ranging from the highly Westernized Moscow and St. Petersburg to more "off the beaten track" locations such as Vladimir or Irkutsk. If you are interested in another Slavic language, opportunities abound for studying in Eastern and Central European countries such as the Czech Republic, Poland, Hungary, or the Baltics.

Various possibilities for study abroad exist, and any of our faculty are happy to provide you with information about these programs and to advise you about which one best fits your academic interests. If you think that you might wish to study abroad, you should plan your academic program carefully to make sure that you will be able to fit in all your major requirements. To talk over your plans, and to determine which courses in the study abroad program



may be approved for major credit on your Columbia College transcript, you should meet with the Director of Undergraduate Studies (Columbia students) or your academic adviser (Barnard students).

## PROFESSORS

Valentina Izmirlieva  
Liza Knapp  
Mark Lipovetsky (Leiderman) (Chair)  
Irina Reyfman

## ASSOCIATE PROFESSORS

Jessica Merrill

## ASSISTANT PROFESSORS

Ofer Dynes  
Adam Leeds

## TERM ASSISTANT PROFESSORS

John Wright (Barnard)

## SENIOR LECTURERS

Aleksandar Boskovic  
Christopher Caes  
Christopher Harwood  
Yuri Shevchuk  
Alla Smyslova

## LECTURERS

Marina Grineva  
Tatiana Mikhailova  
Marina Tsykina

## ON LEAVE

Liza Knapp (Fall 2024)

Czech: Christopher W. Harwood,  
cwh4@columbia.edu

Polish: Christopher J. Caes, cc4038@columbia.edu

Russian: Marina N. Tsykina, mt3750@columbia.edu

Ukrainian: Yuri I. Shevchuk, sy2165@columbia.edu

## Guidance for First-Year Students

The Department offers the Russian placement test twice a year: in August and early December. The Placement test consists of two parts – written (grammar and essay—about two hours) and oral (a 20-minute individual interview). Students who need a reading proficiency exam, or who have particular questions about placing into/out of Russian language courses including heritage courses, should contact the Director of the Russian Language Program Subject with the subject line: “Placement Test”.

The written part of the Russian Placement Test must be completed between the second and first week before classes begin. The test will be administered online and will be accessible starting from two weeks before class begin. See the department website for exact dates.

To take the test, you must be added to the Canvas course and access the course page using CU UNI. Please, contact the Director of the Russian Language Program in advance to be added to the course.

The oral part will be held in person the week before class. The interviews will be conducted remotely via Zoom and in-person at Hamilton Hall, room 709.

For placement in other languages, please contact the appropriate language instructor.

For AP credit policy, see below.

## Coursework Taken Outside of Columbia

Barnard students should consult the Barnard Bulletin, and the Barnard Director of Undergraduate Studies, as requirements differ between Barnard and Columbia departments.

Transfer students or students with prior study of a language taught by the department should take the language placement exam and/or consult with the appropriate language instructor, as detailed above.

For other questions regarding credits for transferring students, for coursework performed while studying abroad, or summer courses, please contact the Director of Undergraduate Studies.

A score of 5 on the AP/NEWL Russian exam satisfies the foreign language requirement. Upon successful completion of a 3-point 3000 level (or higher) course at Columbia, the Department of Slavic Languages will award 3 points of AP credit, provided the grade in the course is a B or better.

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## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Consulting Advisors

For questions regarding the major and the minors, students should contact the Director of Undergraduate Studies: Adam E. Leeds, [al3604@columbia.edu](mailto:al3604@columbia.edu)

For questions regarding language courses, students should contact:

Bosnian, Serbian, and Croatian: Aleksandar Boskovic, [ab3865@columbia.edu](mailto:ab3865@columbia.edu)



Courses taught in English may not be used to earn AP credit. No credit or placement is given for the SAT II Subject test. If you wish to continue with Russian at Columbia, you should take the departmental placement test and speak with the Russian program director prior to registration to ensure proper placement.

## Preparing for Graduate Study

Students who intend to pursue graduate study in Slavic and Eastern European languages and/or literatures should consult with the Director of Graduate Studies. They are strongly encouraged to take four years of language study, and avail themselves of any other opportunities for advanced language study, including study abroad and summer courses, as well as to consider writing a senior thesis.

## UNDERGRADUATE PROGRAMS OF STUDY

### Survey Courses for All Programs

The Department requires students to take one or more survey courses for most of its programs of study (i.e., majors, minors, and formerly concentrations), as detailed below. The following list are courses that are recognized as surveys.

**RUSS UN3220** Literature and Empire (19<sup>th</sup>-century literature)

**RUSS UN3221** Literature and Revolution (20<sup>th</sup>-century literature)

**RUSS UN3223** Magical Mystery Tour: The Legacy of Old Rus'

**SLCL UN3001** Slavic Cultures

**RUSS GU4006** Russian Religious Thought, Praxis, and Literature

**CLSL GU4011** Experimental Cultures

**CLRS GU4022** Russia and Asia: Orientalism, Eurasianism, Internationalism

**CLSL GU4075** Soviet and Post-Soviet, Colonial Post-Colonial Film

**RUSS GU4107** Russian Literature and Culture in the New Millennium

**HSSL GU4280** Religion in Russia: Culture, History and Institution.

This list is subject to change. Students may petition the DUS to have some other appropriate course counted as a "survey" in special circumstances.

## MAJOR IN RUSSIAN LANGUAGE AND CULTURE

The program consists of 15 courses, 8 of which meet language requirements. Of the remaining 7 courses, 2 are introductory surveys, and the other 5 are electives, chosen in consultation with the director of undergraduate studies. The course requirements are distributed as follows:

### Course List

- Eight semesters of coursework in Russian language (from First- through Fourth-year Russian) or the equivalent
- Two survey courses, one of which two of which must be in Russian literature (RUSS UN3220 and RUSS UN3221)
- Five additional courses in Russian culture, history, literature, art, film, music, or in linguistics. At least one of the selected courses should be taught in Russian.

*To complement these courses, students are urged to spend a semester, year, or summer, studying abroad. The Russian Language Coordinator is available to help you choose a suitable program.*

## MAJOR IN RUSSIAN LITERATURE AND CULTURE

The goal of this major is to make students conversant with a variety of Russian literary, historical and theoretical texts in the original, and to facilitate a critical understanding of Russian literature, culture, and society. It is addressed to students who would like to complement serious literary studies with intensive language training, and is especially suitable for those who intend to pursue an academic career in the Slavic field.

The program of study consists of 15 courses, distributed as follows:

### Course List

- Six semesters of coursework in Russian language (from first- through third-year Russian) or the equivalent.
- Three surveys, two of which must be in Russian literature (RUSS UN3220 and RUSS UN3221). (See list above.)
- Six additional courses in Russian literature, culture, history, film, art, music, or in advanced Russian language, chosen in consultation with the director of undergraduate studies. At least one course should be taught in Russian.

*Students considering graduate study in Russian literature are strongly advised to complete four years of language training.*

## MAJOR IN SLAVIC STUDIES

This flexible major provides opportunities for interdisciplinary studies within the Slavic field. Students

are encouraged to choose one target language (Bosnian-Croatian-Serbian, Czech, Polish, Russian, or Ukrainian), though there are possibilities for studying a second Slavic language as well. Generally, the major has one disciplinary focus in history, political science, economics, religion, anthropology, sociology, art, film, or music. In addition, this program allows students to focus on a particular Slavic (non-Russian) literature and culture or to do comparative studies of several Slavic literatures, including Russian. Students should plan their program with the director of undergraduate studies as early as possible, since course availability varies from year to year.

The program of study consists of 15 courses, distributed as follows:

Six semesters of coursework in one Slavic language (from first- through third-year Russian, Bosnian-Croatian-Serbian, Czech, Polish, or Ukrainian) or the equivalent.

Two relevant courses in Russian, East/Central European or Eurasian history.

Two relevant literature or culture courses in Slavic, preferably related to the target language.

Five additional courses with Slavic content in history, political science, economics, literature, religion, anthropology, sociology, art, film, or music, chosen in consultation with the director of undergraduate studies. Two of these electives may be language courses for students who opt to include a second Slavic language in their program.

Altogether students should complete four courses in a single discipline, including, if appropriate, the required history or literature/culture courses.

## MINOR IN SLAVIC AND EASTERN EUROPEAN LANGUAGE AND CULTURE

The minor in Slavic and Eastern European Language and Culture provides a foundation for future engagement with the languages, literatures, and cultures of Eastern Europe.

The minor requires a total of **seven** courses, including two as prerequisites, or between twenty-one and twenty-four points.

- The minor requires **as a prerequisite** two semesters of language at the introductory level (or demonstration of equivalent proficiency via departmental placement examination or prior coursework), either

RUSS UN1101x – UN1102y, First Year Russian I and II, or

RUSS UN3430x-UN3431y: Russian for Heritage Speakers I and II, or

BCRS UN1101x-UN1102y: Elementary Bosnian/Croatian/Serbian, I and II, or

CZCH UN1101x-UN1102y: Elementary Czech, I and II, or

POLI UN1101x-UN1102y: Elementary Polish, I and II, or

UKRN UN1101x-UN1102y: Elementary Ukrainian, I and II.

- Two further semesters of language, either

RUSS UN2101x-UN2102y: Second-year Russian, I and II, or

BCRS UN2101x-UN2102y: Intermediate Bosnian/Croatian/Serbian, I and II, or

CZCH UN2101x-UN2102y: Intermediate Czech, I and II, or

POLI UN2101x-UN2102y: Intermediate Polish, I and II, or

UKRN UN2101x-UN2102y: Intermediate Ukrainian, I and II

*If a student places out of the intermediate level of the language, they are expected to take either two further courses in the language or two further electives of their choice.*

Students must take one course that the department considers a “survey.” (See list above.)

Finally, students must take two other elective courses from our department, which may be language courses. (Extra-departmental courses are discouraged and subject to approval by the DUS).

## MINOR IN SLAVIC AND EASTERN EUROPEAN CULTURE

The minor in Slavic and Eastern European Culture provides a foundation for future engagement with the literatures and cultures of Eastern Europe.

The minor requires a total of five courses, with no prerequisites, or between fifteen and twenty points.

Students must take two courses that the department considers a “survey.” (See list above.)

Students must take three other elective courses from our department. (Extra-departmental courses are discouraged and subject to approval by the DUS).

## CONCENTRATIONS FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Russian Language and Culture

This program is intended for students who aim to attain proficiency in the Russian language. Intensive language training is complemented by an array of elective courses in Russian culture that allow students to achieve critical understanding of contemporary Russian society and of Russian-speaking communities around the world. Since this concentration emphasizes language acquisition, it is not appropriate for native Russian speakers.

The program of study consists of 10 courses, distributed as follows:

Six semesters of coursework in Russian language (from first- through third-year Russian) or the equivalent.

Select one of the surveys. (See list above.)

### Concentration in Slavic (Non-Russian) Language and Culture

This program is intended for students who aim to attain proficiency in a Slavic language other than Russian. Intensive language training is complemented by an array of elective courses in Slavic cultures that allow students to achieve critical understanding of the communities that are shaped by the Slavic language of their choice. Since this concentration emphasizes language acquisition, it is not appropriate for native speakers of the target language.

The program of study consists of 10 courses, distributed as follows:

Six semesters of coursework in one Slavic language (from first- through third-year Bosnian-Croatian-Serbian, Czech, Polish, or Ukrainian) or the equivalent.

Four additional courses in Slavic literature, culture or history, or in linguistics, chosen in consultation with the director of undergraduate studies; at least two should be directly related to the target language of study.

### Concentration in Russian Literature and Culture

The goal of this concentration is to make students conversant with a variety of Russian literary texts and cultural artifacts that facilitate a critical understanding of Russian culture. It is addressed to students who would like to combine language training with study of the Russian literary tradition.

The program of study consists of 10 courses, distributed as follows:

Four semesters of coursework in Russian language (first- and second-year Russian) or the equivalent.

Select two surveys; one of which must be a literature survey (RUSS UN3220 or RUSS UN3221). (See list above.)

Four additional courses in Russian literature, culture, and history, chosen in consultation with the director of undergraduate studies.

### Concentration in Slavic Studies

This flexible concentration provides opportunities for interdisciplinary studies within the Slavic field. Students are encouraged to choose one target language (Bosnian-Croatian-Serbian, Czech, Polish, Russian, or Ukrainian), and one disciplinary focus in history, political science, economics, religion, anthropology, sociology, art, film, or music. In addition, this program allows students to focus on a particular Slavic (non-Russian) literature and culture, or to do comparative studies of several Slavic literatures, including Russian.

The program of study consists of 10 courses, distributed as follows:

Four semesters of coursework in one Slavic language (first- and second-year Bosnian-Croatian-Serbian, Czech, Polish, Russian, or Ukrainian) or the equivalent.

One relevant course in Russian, East/Central European or Eurasian history.

Altogether students should complete three courses in a single discipline, including, if appropriate, the required history or literature/culture courses.

### Concentration in Russian Literature

This concentration is addressed to serious literature students who would like to pursue Russian literature but have no training in Russian. It allows students to explore the Russian literary tradition, while perfecting their critical skills and their techniques of close reading in a variety of challenging courses in translation.

The program of study consists of 8 courses, with no language requirements, distributed as follows:

The two literature surveys RUSS UN3220 and RUSS UN3221. (See list above.)

Six additional courses, focused primarily on Russian literature, culture, and history, though courses in other Slavic literatures are also acceptable if approved by the director of undergraduate studies.

Relevant literature courses from other departments may count toward the concentration only if approved by the director of undergraduate studies.

## SENIOR THESIS COURSEWORK AND REQUIREMENTS

A senior thesis is not required for any Slavic major. Students who wish to undertake a thesis project should confer with the director of undergraduate studies during the registration period in April of their junior year and register to take *RUSS UN3595 SENIOR SEMINAR* in the fall term of their senior year. Students can opt to expand the thesis into a two-semester project register for *RUSS UN3998 SUPERVISED INDIVIDUAL RESEARCH*, with their thesis adviser, in the spring term of their senior year. *Senior Seminar* may satisfy one elective requirement; the optional second semester of thesis work adds one course to the 15 required for the major.

## RUSSIAN LITERATURE AND CULTURE THE DEPARTMENT OF SLAVIC LANGUAGES

Department website: <http://www.columbia.edu/cu/slavic/>

Office location: 708 Hamilton Hall

Office contact: 212-854-3941

**Director of Undergraduate Studies:** Prof. Adam Leeds, 715 Hamilton Hall; [al3604@columbia.edu](mailto:al3604@columbia.edu)

### Language Program Directors:

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**Polish:** Christopher J. Caes; [cc4038@columbia.edu](mailto:cc4038@columbia.edu)

**Russian:** Marina N. Tsykina; [mt3750@columbia.edu](mailto:mt3750@columbia.edu)

**Ukrainian:** Yuri I. Shevchuk; [sy2165@columbia.edu](mailto:sy2165@columbia.edu)

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eye to their specificity and attention to their interaction with other cultures, in history and in the contemporary global context. We focus not only on the rich literary tradition, but also on the film, theater, politics, art, music, media, religious thought, critical theory, and intellectual history of Russians and other Slavs. Our approach is interdisciplinary.

Students who take our courses have different interests. Many of our courses are taught in English with readings in English and have no prerequisites. As a consequence, our majors and concentrators are joined by students from other literature departments, by students of history and political science who have a particular interest in the Slavic region, and by others who are drawn to the subject matter for a variety of intellectual and practical reasons.

We provide instruction in Russian at all levels (beginning through very advanced), with a special course for heritage speakers. To improve the proficiency of Russian learners and speakers, we offer a number of literature and culture courses in which texts are read in the original and discussion is conducted in Russian. We offer three levels of other Slavic languages: Bosnian-Croatian-Serbian, Czech, Polish, and Ukrainian (with additional courses in culture in English). All language courses in the Slavic Department develop the four basic language skills (speaking, listening, reading, and writing) and cultural understanding.

Our department prides itself on the intellectual vitality of its program and on the sense of community among students and faculty. As they explore Russian and Slavic languages, literatures, and cultures, students develop not only their specific knowledge and cultural understanding, but also the capacity for critical thought, skills in analyzing literary and other texts, and the ability to express their ideas orally and in writing. Our graduates have used their knowledge and skills in different ways: graduate school, Fulbright and other fellowships, journalism, publishing, law school, NGO work, public health, government work, and politics. Our faculty is proud of its students and graduates.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Senior Thesis Coursework and Requirements

A senior thesis is not required for any Slavic major. Students who wish to undertake a thesis project should confer with the director of undergraduate studies during the registration period in April of their junior year and register to take *RUSS UN3595 SENIOR SEMINAR* in the fall term of their senior year. Students can opt to expand the thesis into a two-semester project register for *RUSS UN3998 SUPERVISED INDIVIDUAL RESEARCH*, with their thesis adviser, in the spring term of their senior year. *Senior Seminar* may satisfy one elective



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## DEPARTMENT HONORS AND PRIZES

### Department Honors

Students who have a grade point average of at least 3.6 in courses taken for the major and who have submitted a senior thesis of outstanding quality will be considered for departmental honors. Normally no more than 10 percent of the graduating majors may be awarded departmental honors in any given year. For more information, consult the Director of Undergraduate Studies no later than the change-of-program period in the fall term of your senior year.

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A cash prize awarded annually to an undergraduate of high academic distinction and promise in an area of study concerned with Russian or another Slavic culture, including literature, music, art, religion, or cultural history. Established in honor of Professor Robert A. Maguire.

The award is meant to perpetuate Professor Maguire's legacy and to ensure that his name remains a prominent feature in the landscape of Slavic Studies at Columbia.

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Various possibilities for study abroad exist, and any of our faculty are happy to provide you with information about these programs and to advise you about which one best fits your academic interests. If you think that you might wish to study abroad, you should plan your academic program carefully to make sure that you will be able to fit in all your major requirements. To talk over your plans, and to determine which courses in the study abroad program may be approved for major credit on your Columbia College transcript, you should meet with the Director of Undergraduate Studies (Columbia students) or your academic adviser (Barnard students).

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Alla Smyslova

## LECTURERS

Marina Grineva  
Tatiana Mikhailova  
Marina Tsyлина

## ON LEAVE

Liza Knapp (Fall 2024)

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## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Consulting Advisors

For questions regarding the major and the minors, students should contact the Director of Undergraduate Studies: Adam E. Leeds, [al3604@columbia.edu](mailto:al3604@columbia.edu)

For questions regarding language courses, students should contact:

Bosnian, Serbian, and Croatian: Aleksandar Boskovic, [ab3865@columbia.edu](mailto:ab3865@columbia.edu)

Czech: Christopher W. Harwood, [cwh4@columbia.edu](mailto:cwh4@columbia.edu)

Polish: Christopher J. Caes, [cc4038@columbia.edu](mailto:cc4038@columbia.edu)

Russian: Marina N. Tsyлина, [mt3750@columbia.edu](mailto:mt3750@columbia.edu)

Ukrainian: Yuri I. Shevchuk, [sy2165@columbia.edu](mailto:sy2165@columbia.edu)

## Guidance for First-Year Students

The Department offers the Russian placement test twice a year: in August and early December. The Placement test consists of two parts – written (grammar and essay—about two hours) and oral (a 20-minute individual interview). Students who need a reading proficiency exam, or who have particular questions about placing into/out of Russian language courses including heritage courses, should contact the Director of the Russian Language Program Subject with the subject line: “Placement Test”.

The written part of the Russian Placement Test must be completed between the second and first week before classes begin. The test will be administered online and will be accessible starting from two weeks before class begin. See the department website for exact dates.

To take the test, you must be added to the Canvas course and access the course page using CU UNI. Please, contact the Director of the Russian Language Program in advance to be added to the course.

The oral part will be held in person the week before class. The interviews will be conducted remotely via Zoom and in-person at Hamilton Hall, room 709.

For placement in other languages, please contact the appropriate language instructor.

For AP credit policy, see below.

## Coursework Taken Outside of Columbia

Barnard students should consult the Barnard Bulletin, and the Barnard Director of Undergraduate Studies, as requirements differ between Barnard and Columbia departments.

Transfer students or students with prior study of a language taught by the department should take the language placement exam and/or consult with the appropriate language instructor, as detailed above.

For other questions regarding credits for transferring students, for coursework performed while studying abroad, or summer courses, please contact the Director of Undergraduate Studies.

A score of 5 on the AP/NEWL Russian exam satisfies the foreign language requirement. Upon successful completion of a 3-point 3000 level (or higher) course at Columbia, the Department of Slavic Languages will award 3 points of AP credit, provided the grade in the course is a B or better. Courses taught in English may not be used to earn AP credit. No credit or placement is given for the SAT II Subject test. If you wish to continue with Russian at Columbia, you should take the departmental placement test and speak with the Russian program director prior to registration to ensure proper placement.

## Preparing for Graduate Study

Students who intend to pursue graduate study in Slavic and Eastern European languages and/or literatures should consult with the Director of Graduate Studies. They are strongly encouraged to take four years of language study, and avail themselves of any other opportunities for advanced language study, including study abroad and summer courses, as well as to consider writing a senior thesis.

## UNDERGRADUATE PROGRAMS OF STUDY

### Survey Courses for All Programs

The Department requires students to take one or more survey courses for most of its programs of study (i.e., majors, minors, and formerly concentrations), as detailed below. The following list are courses that are recognized as surveys.

**RUSS UN3220** Literature and Empire (19<sup>th</sup>-century literature)

**RUSS UN3221** Literature and Revolution (20<sup>th</sup>-century literature)

**RUSS UN3223** Magical Mystery Tour: The Legacy of Old Rus'

**SLCL UN3001** Slavic Cultures

**RUSS GU4006** Russian Religious Thought, Praxis, and Literature

**CLSL GU4011** Experimental Cultures

**CLRS GU4022** Russia and Asia: Orientalism, Eurasianism, Internationalism

**CLSL GU4075** Soviet and Post-Soviet, Colonial Post-Colonial Film

**RUSS GU4107** Russian Literature and Culture in the New Millennium

**HSSL GU4280** Religion in Russia: Culture, History and Institution.

This list is subject to change. Students may petition the DUS to have some other appropriate course counted as a “survey” in special circumstances.

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## MAJOR IN RUSSIAN LANGUAGE AND CULTURE

The program consists of 15 courses, 8 of which meet language requirements. Of the remaining 7 courses, 2 are introductory surveys, and the other 5 are electives, chosen in

consultation with the director of undergraduate studies. The course requirements are distributed as follows:

#### Course List

- Eight semesters of coursework in Russian language (from First- through Fourth-year Russian) or the equivalent
- Two survey courses, one of which two of which must be in Russian literature (RUSS UN3220 and RUSS UN3221)
- Five additional courses in Russian culture, history, literature, art, film, music, or in linguistics. At least one of the selected courses should be taught in Russian.

*To complement these courses, students are urged to spend a semester, year, or summer, studying abroad. The Russian Language Coordinator is available to help you choose a suitable program.*

## MAJOR IN RUSSIAN LITERATURE AND CULTURE

The goal of this major is to make students conversant with a variety of Russian literary, historical and theoretical texts in the original, and to facilitate a critical understanding of Russian literature, culture, and society. It is addressed to students who would like to complement serious literary studies with intensive language training, and is especially suitable for those who intend to pursue an academic career in the Slavic field.

The program of study consists of 15 courses, distributed as follows:

#### Course List

- Six semesters of coursework in Russian language (from first- through third-year Russian) or the equivalent.
- Three surveys, two of which must be in Russian literature (RUSS UN3220 and RUSS UN3221). (See list above.)
- Six additional courses in Russian literature, culture, history, film, art, music, or in advanced Russian language, chosen in consultation with the director of undergraduate studies. At least one course should be taught in Russian.

*Students considering graduate study in Russian literature are strongly advised to complete four years of language training.*

## MAJOR IN SLAVIC STUDIES

This flexible major provides opportunities for interdisciplinary studies within the Slavic field. Students are encouraged to choose one target language (Bosnian-Croatian-Serbian, Czech, Polish, Russian, or Ukrainian), though there are possibilities for studying a second Slavic language as well. Generally, the major has one disciplinary focus in history, political science, economics, religion, anthropology, sociology, art, film, or music. In addition, this

program allows students to focus on a particular Slavic (non-Russian) literature and culture or to do comparative studies of several Slavic literatures, including Russian. Students should plan their program with the director of undergraduate studies as early as possible, since course availability varies from year to year.

The program of study consists of 15 courses, distributed as follows:

Six semesters of coursework in one Slavic language (from first- through third-year Russian, Bosnian-Croatian-Serbian, Czech, Polish, or Ukrainian) or the equivalent.

Two relevant courses in Russian, East/Central European or Eurasian history.

Two relevant literature or culture courses in Slavic, preferably related to the target language.

Five additional courses with Slavic content in history, political science, economics, literature, religion, anthropology, sociology, art, film, or music, chosen in consultation with the director of undergraduate studies. Two of these electives may be language courses for students who opt to include a second Slavic language in their program.

Altogether students should complete four courses in a single discipline, including, if appropriate, the required history or literature/culture courses.

## MINOR IN SLAVIC AND EASTERN EUROPEAN LANGUAGE AND CULTURE

The minor in Slavic and Eastern European Language and Culture provides a foundation for future engagement with the languages, literatures, and cultures of Eastern Europe.

The minor requires a total of **seven** courses, including two as prerequisites, or between twenty-one and twenty-four points.

- The minor requires **as a prerequisite** two semesters of language at the introductory level (or demonstration of equivalent proficiency via departmental placement examination or prior coursework), either

RUSS UN1101x – UN1102y, First Year Russian I and II, or

RUSS UN3430x-UN3431y: Russian for Heritage Speakers I and II, or

BCRS UN1101x-UN1102y: Elementary Bosnian/Croatian/Serbian, I and II, or

CZCH UN1101x-UN1102y: Elementary Czech, I and II, or

POLI UN1101x-UN1102y: Elementary Polish, I and II, or

UKRN UN1101x-UN1102y: Elementary Ukrainian, I and II.

- Two further semesters of language, either

RUSS UN2101x-UN2102y: Second-year Russian, I and II, or

BCRS UN2101x-UN2102y: Intermediate Bosnian/Croatian/Serbian, I and II, or

CZCH UN2101x-UN2102y: Intermediate Czech, I and II, or

POLI UN2101x-UN2102y: Intermediate Polish, I and II, or

UKRN UN2101x-UN2102y: Intermediate Ukrainian, I and II

*If a student places out of the intermediate level of the language, they are expected to take either two further courses in the language or two further electives of their choice.*

Students must take one course that the department considers a “survey.” (See list above.)

Finally, students must take two other elective courses from our department, which may be language courses. (Extra-departmental courses are discouraged and subject to approval by the DUS).

## MINOR IN SLAVIC AND EASTERN EUROPEAN CULTURE

The minor in Slavic and Eastern European Culture provides a foundation for future engagement with the literatures and cultures of Eastern Europe.

The minor requires a total of five courses, with no prerequisites, or between fifteen and twenty points.

Students must take two courses that the department considers a “survey.” (See list above.)

Students must take three other elective courses from our department. (Extra-departmental courses are discouraged and subject to approval by the DUS).

## CONCENTRATIONS FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Russian Language and Culture

This program is intended for students who aim to attain proficiency in the Russian language. Intensive language training is complemented by an array of elective courses in Russian culture that allow students to achieve critical understanding of contemporary Russian society and of Russian-speaking communities around the world. Since this

concentration emphasizes language acquisition, it is not appropriate for native Russian speakers.

The program of study consists of 10 courses, distributed as follows:

Six semesters of coursework in Russian language (from first-through third-year Russian) or the equivalent.

Select one of the surveys. (See list above.)

### Concentration in Slavic (Non-Russian) Language and Culture

This program is intended for students who aim to attain proficiency in a Slavic language other than Russian. Intensive language training is complemented by an array of elective courses in Slavic cultures that allow students to achieve critical understanding of the communities that are shaped by the Slavic language of their choice. Since this concentration emphasizes language acquisition, it is not appropriate for native speakers of the target language.

The program of study consists of 10 courses, distributed as follows:

Six semesters of coursework in one Slavic language (from first- through third-year Bosnian-Croatian-Serbian, Czech, Polish, or Ukrainian) or the equivalent.

Four additional courses in Slavic literature, culture or history, or in linguistics, chosen in consultation with the director of undergraduate studies; at least two should be directly related to the target language of study.

### Concentration in Russian Literature and Culture

The goal of this concentration is to make students conversant with a variety of Russian literary texts and cultural artifacts that facilitate a critical understanding of Russian culture. It is addressed to students who would like to combine language training with study of the Russian literary tradition.

The program of study consists of 10 courses, distributed as follows:

Four semesters of coursework in Russian language (first- and second-year Russian) or the equivalent.

Select two surveys; one of which must be a literature survey (RUSS UN3220 or RUSS UN3221). (See list above.)

Four additional courses in Russian literature, culture, and history, chosen in consultation with the director of undergraduate studies.

### Concentration in Slavic Studies

This flexible concentration provides opportunities for interdisciplinary studies within the Slavic field. Students



are encouraged to choose one target language (Bosnian-Croatian-Serbian, Czech, Polish, Russian, or Ukrainian), and one disciplinary focus in history, political science, economics, religion, anthropology, sociology, art, film, or music. In addition, this program allows students to focus on a particular Slavic (non-Russian) literature and culture, or to do comparative studies of several Slavic literatures, including Russian.

The program of study consists of 10 courses, distributed as follows:

Four semesters of coursework in one Slavic language (first- and second-year Bosnian-Croatian-Serbian, Czech, Polish, Russian, or Ukrainian) or the equivalent.

One relevant course in Russian, East/Central European or Eurasian history.

Altogether students should complete three courses in a single discipline, including, if appropriate, the required history or literature/culture courses.

### Concentration in Russian Literature

This concentration is addressed to serious literature students who would like to pursue Russian literature but have no training in Russian. It allows students to explore the Russian literary tradition, while perfecting their critical skills and their techniques of close reading in a variety of challenging courses in translation.

The program of study consists of 8 courses, with no language requirements, distributed as follows:

The two literature surveys RUSS UN3220 and RUSS UN3221. (See list above.)

Six additional courses, focused primarily on Russian literature, culture, and history, though courses in other Slavic literatures are also acceptable if approved by the director of undergraduate studies.

Relevant literature courses from other departments may count toward the concentration only if approved by the director of undergraduate studies.

### SENIOR THESIS COURSEWORK AND REQUIREMENTS

A senior thesis is not required for any Slavic major. Students who wish to undertake a thesis project should confer with the director of undergraduate studies during the registration period in April of their junior year and register to take *RUSS UN3595 SENIOR SEMINAR* in the fall term of their senior year. Students can opt to expand the thesis into a two-semester project register for *RUSS UN3998 SUPERVISED INDIVIDUAL RESEARCH*, with their thesis adviser, in the spring term of their senior year. *Senior Seminar* may satisfy one elective

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## SLAVIC STUDIES THE DEPARTMENT OF SLAVIC LANGUAGES

Department website: <http://www.columbia.edu/cu/slavic/>

Office location: 708 Hamilton Hall

Office contact: 212-854-3941

**Director of Undergraduate Studies:** Prof. Adam Leeds, 715 Hamilton Hall; [al3604@columbia.edu](mailto:al3604@columbia.edu)

### Language Program Directors:

**Bosnian, Serbian, and Croatian:** Aleksandar Boskovic; [ab3865@columbia.edu](mailto:ab3865@columbia.edu)

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## THE STUDY OF SLAVIC AND EASTERN EUROPEAN LANGUAGES AND CULTURES

The Department of Slavic Languages and Literatures is devoted to the study of the cultures, literatures, and languages of Russia and other Slavic peoples and lands. We approach our study and teaching of these cultures with an eye to their specificity and attention to their interaction with other cultures, in history and in the contemporary global context. We focus not only on the rich literary tradition, but also on the film, theater, politics, art, music, media, religious thought, critical theory, and intellectual history of Russians and other Slavs. Our approach is interdisciplinary.

Students who take our courses have different interests. Many of our courses are taught in English with readings in English and have no prerequisites. As a consequence, our majors and concentrators are joined by students from other literature departments, by students of history and political science who have a particular interest in the Slavic region, and by others who are drawn to the subject matter for a variety of intellectual and practical reasons.

We provide instruction in Russian at all levels (beginning through very advanced), with a special course for heritage speakers. To improve the proficiency of Russian learners



and speakers, we offer a number of literature and culture courses in which texts are read in the original and discussion is conducted in Russian. We offer three levels of other Slavic languages: Bosnian-Croatian-Serbian, Czech, Polish, and Ukrainian (with additional courses in culture in English). All language courses in the Slavic Department develop the four basic language skills (speaking, listening, reading, and writing) and cultural understanding.

Our department prides itself on the intellectual vitality of its program and on the sense of community among students and faculty. As they explore Russian and Slavic languages, literatures, and cultures, students develop not only their specific knowledge and cultural understanding, but also the capacity for critical thought, skills in analyzing literary and other texts, and the ability to express their ideas orally and in writing. Our graduates have used their knowledge and skills in different ways: graduate school, Fulbright and other fellowships, journalism, publishing, law school, NGO work, public health, government work, and politics. Our faculty is proud of its students and graduates.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

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Ukrainian), and the country's first undergraduate journal of Eastern European and Eurasian Culture, *The Birch*. The Slavic Department has close ties to the Harriman Institute and the East Central European Center, which sponsor lectures, symposia, performances, and conferences.

## **Study and Research Abroad**

The Slavic Department strongly encourages all students to spend a semester, summer, or year abroad if at all possible. A summer or a semester studying in an academic institution in your target country can be extraordinarily rewarding, not only for your language proficiency but for learning firsthand about the country's culture and intellectual life. If Russian is your focus, you can now choose from a vast array of programs in cities ranging from the highly Westernized Moscow and St. Petersburg to more "off the beaten track" locations such as Vladimir or Irkutsk. If you are interested in another Slavic language, opportunities abound for studying in Eastern and Central European countries such as the Czech Republic, Poland, Hungary, or the Baltics.

Various possibilities for study abroad exist, and any of our faculty are happy to provide you with information about these programs and to advise you about which one best fits your academic interests. If you think that you might wish to study abroad, you should plan your academic program carefully to make sure that you will be able to fit in all your major requirements. To talk over your plans, and to determine which courses in the study abroad program may be approved for major credit on your Columbia College transcript, you should meet with the Director of Undergraduate Studies (Columbia students) or your academic adviser (Barnard students).

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Alla Smyslova

## LECTURERS

Marina Grineva  
Tatiana Mikhailova  
Marina Tsylyna

## ON LEAVE

Liza Knapp (Fall 2024)

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## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Consulting Advisors

For questions regarding the major and the minors, students should contact the Director of Undergraduate Studies: Adam E. Leeds, [al3604@columbia.edu](mailto:al3604@columbia.edu)

For questions regarding language courses, students should contact:

Bosnian, Serbian, and Croatian: Aleksandar Boskovic, [ab3865@columbia.edu](mailto:ab3865@columbia.edu)

Czech: Christopher W. Harwood, [cwh4@columbia.edu](mailto:cwh4@columbia.edu)

Polish: Christopher J. Caes, [cc4038@columbia.edu](mailto:cc4038@columbia.edu)

Russian: Marina N. Tsylyna, [mt3750@columbia.edu](mailto:mt3750@columbia.edu)

Ukrainian: Yuri I. Shevchuk, [sy2165@columbia.edu](mailto:sy2165@columbia.edu)

### Guidance for First-Year Students

The Department offers the Russian placement test twice a year: in August and early December. The Placement test consists of two parts – written (grammar and essay—about two hours) and oral (a 20-minute individual interview). Students who need a reading proficiency exam, or who have particular questions about placing into/out of Russian language courses including heritage courses, should contact the Director of the Russian Language Program Subject with the subject line: “Placement Test”.

The written part of the Russian Placement Test must be completed between the second and first week before classes begin. The test will be administered online and will be accessible starting from two weeks before class begin. See the department website for exact dates.

To take the test, you must be added to the Canvas course and access the course page using CU UNI. Please, contact the Director of the Russian Language Program in advance to be added to the course.

The oral part will be held in person the week before class. The interviews will be conducted remotely via Zoom and in-person at Hamilton Hall, room 709.

For placement in other languages, please contact the appropriate language instructor.

For AP credit policy, see below.

### Coursework Taken Outside of Columbia

Barnard students should consult the Barnard Bulletin, and the Barnard Director of Undergraduate Studies, as requirements differ between Barnard and Columbia departments.

Transfer students or students with prior study of a language taught by the department should take the language placement exam and/or consult with the appropriate language instructor, as detailed above.

For other questions regarding credits for transferring students, for coursework performed while studying abroad, or summer courses, please contact the Director of Undergraduate Studies.

A score of 5 on the AP/NEWL Russian exam satisfies the foreign language requirement. Upon successful completion of a 3-point 3000 level (or higher) course at Columbia, the Department of Slavic Languages will award 3 points of AP credit, provided the grade in the course is a B or better. Courses taught in English may not be used to earn AP credit. No credit or placement is given for the SAT II Subject test. If you wish to continue with Russian at Columbia, you should take the departmental placement test and speak with the Russian program director prior to registration to ensure proper placement.

### Preparing for Graduate Study

Students who intend to pursue graduate study in Slavic and Eastern European languages and/or literatures should consult with the Director of Graduate Studies. They are strongly encouraged to take four years of language study, and avail themselves of any other opportunities for advanced language study, including study abroad and summer courses, as well as to consider writing a senior thesis.

## UNDERGRADUATE PROGRAMS OF STUDY

### Survey Courses for All Programs

The Department requires students to take one or more survey courses for most of its programs of study (i.e., majors,

minors, and formerly concentrations), as detailed below. The following list are courses that are recognized as surveys.

**RUSS UN3220** Literature and Empire (19<sup>th</sup>-century literature)

**RUSS UN3221** Literature and Revolution (20<sup>th</sup>-century literature)

**RUSS UN3223** Magical Mystery Tour: The Legacy of Old Rus'

**SLCL UN3001** Slavic Cultures

**RUSS GU4006** Russian Religious Thought, Praxis, and Literature

**CLSL GU4011** Experimental Cultures

**CLRS GU4022** Russia and Asia: Orientalism, Eurasianism, Internationalism

**CLSL GU4075** Soviet and Post-Soviet, Colonial Post-Colonial Film

**RUSS GU4107** Russian Literature and Culture in the New Millennium

**HSSL GU4280** Religion in Russia: Culture, History and Institution.

This list is subject to change. Students may petition the DUS to have some other appropriate course counted as a "survey" in special circumstances.

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## MAJOR IN RUSSIAN LANGUAGE AND CULTURE

The program consists of 15 courses, 8 of which meet language requirements. Of the remaining 7 courses, 2 are introductory surveys, and the other 5 are electives, chosen in consultation with the director of undergraduate studies. The course requirements are distributed as follows:

### Course List

- Eight semesters of coursework in Russian language (from First- through Fourth-year Russian) or the equivalent
- Two survey courses, one of which two of which must be in Russian literature (RUSS UN3220 and RUSS UN3221)
- Five additional courses in Russian culture, history, literature, art, film, music, or in linguistics. At least one of the selected courses should be taught in Russian.

*To complement these courses, students are urged to spend a semester, year, or summer, studying abroad. The Russian Language Coordinator is available to help you choose a suitable program.*

## MAJOR IN RUSSIAN LITERATURE AND CULTURE

The goal of this major is to make students conversant with a variety of Russian literary, historical and theoretical texts in the original, and to facilitate a critical understanding of Russian literature, culture, and society. It is addressed to students who would like to complement serious literary studies with intensive language training, and is especially suitable for those who intend to pursue an academic career in the Slavic field.

The program of study consists of 15 courses, distributed as follows:

### Course List

- Six semesters of coursework in Russian language (from first- through third-year Russian) or the equivalent.
- Three surveys, two of which must be in Russian literature (RUSS UN3220 and RUSS UN3221). (See list above.)
- Six additional courses in Russian literature, culture, history, film, art, music, or in advanced Russian language, chosen in consultation with the director of undergraduate studies. At least one course should be taught in Russian.

*Students considering graduate study in Russian literature are strongly advised to complete four years of language training.*

## MAJOR IN SLAVIC STUDIES

This flexible major provides opportunities for interdisciplinary studies within the Slavic field. Students are encouraged to choose one target language (Bosnian-Croatian-Serbian, Czech, Polish, Russian, or Ukrainian), though there are possibilities for studying a second Slavic language as well. Generally, the major has one disciplinary focus in history, political science, economics, religion, anthropology, sociology, art, film, or music. In addition, this program allows students to focus on a particular Slavic (non-Russian) literature and culture or to do comparative studies of several Slavic literatures, including Russian. Students should plan their program with the director of undergraduate studies as early as possible, since course availability varies from year to year.

The program of study consists of 15 courses, distributed as follows:

Six semesters of coursework in one Slavic language (from first- through third-year Russian, Bosnian-Croatian-Serbian, Czech, Polish, or Ukrainian) or the equivalent.

Two relevant courses in Russian, East/Central European or Eurasian history.

Two relevant literature or culture courses in Slavic, preferably related to the target language.



Five additional courses with Slavic content in history, political science, economics, literature, religion, anthropology, sociology, art, film, or music, chosen in consultation with the director of undergraduate studies. Two of these electives may be language courses for students who opt to include a second Slavic language in their program.

Altogether students should complete four courses in a single discipline, including, if appropriate, the required history or literature/culture courses.

## MINOR IN SLAVIC AND EASTERN EUROPEAN LANGUAGE AND CULTURE

The minor in Slavic and Eastern European Language and Culture provides a foundation for future engagement with the languages, literatures, and cultures of Eastern Europe.

The minor requires a total of **seven** courses, including two as prerequisites, or between twenty-one and twenty-four points.

- The minor requires **as a prerequisite** two semesters of language at the introductory level (or demonstration of equivalent proficiency via departmental placement examination or prior coursework), either

RUSS UN1101x – UN1102y, First Year Russian I and II, or

RUSS UN3430x-UN3431y: Russian for Heritage Speakers I and II, or

BCRS UN1101x-UN1102y: Elementary Bosnian/Croatian/Serbian, I and II, or

CZCH UN1101x-UN1102y: Elementary Czech, I and II, or

POLI UN1101x-UN1102y: Elementary Polish, I and II, or

UKRN UN1101x-UN1102y: Elementary Ukrainian, I and II.

- Two further semesters of language, either

RUSS UN2101x-UN2102y: Second-year Russian, I and II, or

BCRS UN2101x-UN2102y: Intermediate Bosnian/Croatian/Serbian, I and II, or

CZCH UN2101x-UN2102y: Intermediate Czech, I and II, or

POLI UN2101x-UN2102y: Intermediate Polish, I and II, or

UKRN UN2101x-UN2102y: Intermediate Ukrainian, I and II

*If a student places out of the intermediate level of the language, they are expected to take either two further courses in the language or two further electives of their choice.*

Students must take one course that the department considers a “survey.” (See list above.)

Finally, students must take two other elective courses from our department, which may be language courses. (Extra-departmental courses are discouraged and subject to approval by the DUS).

## MINOR IN SLAVIC AND EASTERN EUROPEAN CULTURE

The minor in Slavic and Eastern European Culture provides a foundation for future engagement with the literatures and cultures of Eastern Europe.

The minor requires a total of five courses, with no prerequisites, or between fifteen and twenty points.

Students must take two courses that the department considers a “survey.” (See list above.)

Students must take three other elective courses from our department. (Extra-departmental courses are discouraged and subject to approval by the DUS).

## CONCENTRATIONS FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Russian Language and Culture

This program is intended for students who aim to attain proficiency in the Russian language. Intensive language training is complemented by an array of elective courses in Russian culture that allow students to achieve critical understanding of contemporary Russian society and of Russian-speaking communities around the world. Since this concentration emphasizes language acquisition, it is not appropriate for native Russian speakers.

The program of study consists of 10 courses, distributed as follows:

Six semesters of coursework in Russian language (from first-through third-year Russian) or the equivalent.

Select one of the surveys. (See list above.)

### Concentration in Slavic (Non-Russian) Language and Culture

This program is intended for students who aim to attain proficiency in a Slavic language other than Russian. Intensive language training is complemented by an array of elective courses in Slavic cultures that allow students to achieve critical understanding of the communities that are shaped by the Slavic language of their choice. Since this



concentration emphasizes language acquisition, it is not appropriate for native speakers of the target language.

The program of study consists of 10 courses, distributed as follows:

Six semesters of coursework in one Slavic language (from first- through third-year Bosnian-Croatian-Serbian, Czech, Polish, or Ukrainian) or the equivalent.

Four additional courses in Slavic literature, culture or history, or in linguistics, chosen in consultation with the director of undergraduate studies; at least two should be directly related to the target language of study.

### Concentration in Russian Literature and Culture

The goal of this concentration is to make students conversant with a variety of Russian literary texts and cultural artifacts that facilitate a critical understanding of Russian culture. It is addressed to students who would like to combine language training with study of the Russian literary tradition.

The program of study consists of 10 courses, distributed as follows:

Four semesters of coursework in Russian language (first- and second-year Russian) or the equivalent.

Select two surveys; one of which must be a literature survey (RUSS UN3220 or RUSS UN3221). (See list above.)

Four additional courses in Russian literature, culture, and history, chosen in consultation with the director of undergraduate studies.

### Concentration in Slavic Studies

This flexible concentration provides opportunities for interdisciplinary studies within the Slavic field. Students are encouraged to choose one target language (Bosnian-Croatian-Serbian, Czech, Polish, Russian, or Ukrainian), and one disciplinary focus in history, political science, economics, religion, anthropology, sociology, art, film, or music. In addition, this program allows students to focus on a particular Slavic (non-Russian) literature and culture, or to do comparative studies of several Slavic literatures, including Russian.

The program of study consists of 10 courses, distributed as follows:

Four semesters of coursework in one Slavic language (first- and second-year Bosnian-Croatian-Serbian, Czech, Polish, Russian, or Ukrainian) or the equivalent.

One relevant course in Russian, East/Central European or Eurasian history.

Altogether students should complete three courses in a single discipline, including, if appropriate, the required history or literature/culture courses.

### Concentration in Russian Literature

This concentration is addressed to serious literature students who would like to pursue Russian literature but have no training in Russian. It allows students to explore the Russian literary tradition, while perfecting their critical skills and their techniques of close reading in a variety of challenging courses in translation.

The program of study consists of 8 courses, with no language requirements, distributed as follows:

The two literature surveys RUSS UN3220 and RUSS UN3221. (See list above.)

Six additional courses, focused primarily on Russian literature, culture, and history, though courses in other Slavic literatures are also acceptable if approved by the director of undergraduate studies.

Relevant literature courses from other departments may count toward the concentration only if approved by the director of undergraduate studies.

## SENIOR THESIS COURSEWORK AND REQUIREMENTS

A senior thesis is not required for any Slavic major. Students who wish to undertake a thesis project should confer with the director of undergraduate studies during the registration period in April of their junior year and register to take *RUSS UN3595 SENIOR SEMINAR* in the fall term of their senior year. Students can opt to expand the thesis into a two-semester project register for *RUSS UN3998 SUPERVISED INDIVIDUAL RESEARCH*, with their thesis adviser, in the spring term of their senior year. *Senior Seminar* may satisfy one elective requirement; the optional second semester of thesis work adds one course to the 15 required for the major.

## SOCIOLOGY

### THE SOCIOLOGY DEPARTMENT:

Department website: <https://sociology.columbia.edu/>

Office location: 501 Knox Hall

Office contact: 501 Knox Hall; 212-853-1909

<http://www.sociology.columbia.edu>

Director of Undergraduate Studies: Teresa Sharpe, 501 Knox; [ts2785@columbia.edu](mailto:ts2785@columbia.edu)

Undergraduate Administrator: Winston Gordon, 501 Knox;  
wg2339@columbia.edu

## THE DEPARTMENT OF SOCIOLOGY

Sociology is the study of society. In examining patterns of association, sociologists explore the interactions of people, communities, and organizations. In this sense, sociology is not the study of people; it is the study of the relationships among people. This study includes the associations between people and the products of human interaction, such as organizations, technologies, economies, cities, culture, media, and religion. In the kinds of questions it asks, sociology is a deeply humanist discipline and sociologists demand the analytic rigor of scientific investigation.

In training students in our department, we encourage them to ask big questions and we work to give them the tools to provide answers. These tools might mean ethnographic observation, pouring through historical archives, looking at census data, analyzing social networks, or interviewing people from various walks of life.

As a bridging discipline that seeks the scientific exploration of questions that matter to human communities, such as inequality and social injustice, sociology addresses many of the same areas of life as our neighboring social science disciplines. Yet we often approach these areas quite differently. For example, problems of economic and political life are a central concern to sociologists. Rather than explore these as independent or particular features of society, we seek to embed them within the complex whole of the social world. Students will find the Department of Sociology to be a broad, demanding department that provides its students with the conceptual and methodological tools to make sense of the opportunities and social problems of the global communities in which we live.

## DEPARTMENT HONORS AND PRIZES

In order to be considered for departmental honors, majors must have a minimum GPA of 3.6 overall and 3.8 in courses in the Department of Sociology. In addition, students must produce an exceptional honors thesis in the two-semester Senior Seminar ([SOCI UN3995-SOCI UN3996 SENIOR SEMINAR](#)).

In order to register for the Senior Seminar, students must have completed [SOCI UN3010 METHODS FOR SOCIAL RESEARCH](#) and have had their research project accepted by the faculty member teaching the Senior Seminar. Submissions of research projects are due by May 1 preceding the seminar. Normally no more than 10% of graduating majors receive departmental honors in a given academic year.

## PROFESSORS

Peter Bearman  
Courtney Bender (Religion)  
Elizabeth Bernstein (Barnard)  
Yinon Cohen  
Jonathan R. Cole  
Thomas A. DiPrete  
Gil Eyal  
Todd Gitlin (Journalism)  
Jennifer Hirsch (Sociomedical Sciences)  
Bruce Kogut (Business)  
Jennifer Lee  
Yao Lu  
Bruce Link (School of Public Health)  
Debra C. Minkoff (Barnard, Chair)  
Mignon Moore (Barnard)  
Aaron Pallas (Teachers College)  
Adam Reich  
Jonathan Rieder (Barnard)  
Saskia Sassen  
Mario Small (Chair)  
Seymour Spilerman  
David Stark (also School of International and Public Affairs)  
Julien Teitler (Social Work)  
Diane Vaughan  
Sudhir Alladi Venkatesh  
Amy Stuart Wells (Teachers College)  
Bruce Western  
Andreas Wimmer

## ASSOCIATE PROFESSORS

Mark Hatzenbuehler (Sociomedical)  
Jennifer Lena (Teachers College)  
Tey Meadow  
Emmanuelle Saada (French and Romance Philology)  
Marissa Thompson  
Josh Whitford

## ASSISTANT PROFESSORS

Maria Abascal  
Debbie Becher (Barnard)  
Maricarmen Hernandez (Barnard)  
Christel Kesler (Barnard)  
Angela M. Simms (Barnard)  
Gerard Torrats-Espinosa  
Dan Wang (Business School)  
Amy Yuan Zhou (Barnard)

## LECTURERS

Denise Milstein  
Teresa Sharpe  
Kristin Murphy

## MAJOR IN SOCIOLOGY

The major in sociology requires a minimum of 30-31 points as follows:

### Core Courses

The following three courses are required (10 points):

SOCI UN1000	THE SOCIAL WORLD
SOCI UN3000	SOCIAL THEORY
SOCI UN3010	METHODS FOR SOCIAL RESEARCH

### Elective Courses

Select six courses (20-21 points) in the Department of Sociology, to include at least three lecture courses (2000- or 3000-level, 3 points each) and at least two seminars (4 points each). The sixth course could be either a lecture course (to a total of 30 points) or a seminar (to a total of 31 points). For students taking the two-semester Senior Seminar, the sixth course must be a seminar. Some examples of electives include: \*

SOCI UN3020	Social Statistics
SOCI UN3213	Sociology of African American Life
SOCI UN3235	SOCIAL MOVEMENTS
SOCI UN3490	MISTAKE, MISCONDUCT, DISASTER
SOCI UN3285	ISRAELI SOC # ISR-PLS CONFLICT
SOCI UN3264	The Changing American Family
SOCI UN3900	Societal Adaptations to Terrorism
SOCI UN3914	INEQUALITY, POVERTY # MOBILITY
SOCI UN3931	Sociology of the Body
SOCI UN3974	SOCI OF SCHOOLS,TEACH,LEARNING
SOCI UN3995	Senior Seminar
SOCI UN3996	SENIOR SEMINAR

\* These may include the two-semester *Senior Seminar* (SOCI UN3995-SOCI UN3996).

## MINOR IN SOCIOLOGY

The minor in sociology requires the Social World, Social Theory, and 3 elective courses (the elective courses must be 3 or 4 units):

### Core Courses

The following courses are required for the minor in Sociology

SOCI UN1000	THE SOCIAL WORLD
SOCI UN3000	SOCIAL THEORY

### Electives

Select three courses (10 points) in the Department of Sociology. Some examples of electives include:

SOCI UN3020	Social Statistics
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SOCI UN3212	Methods of Social Research
SOCI UN3235	SOCIAL MOVEMENTS
SOCI UN1203	The Social Animal in the Digital Age
SOCI UN3285	ISRAELI SOC # ISR-PLS CONFLICT
SOCI UN3675	ORGANIZING INNOVATION
SOCI UN3914	INEQUALITY, POVERTY # MOBILITY

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

### Concentration in Sociology

The concentration in sociology requires a minimum of 20 points as follows:

### Core Courses

The following three courses are required (10 points):

SOCI UN1000	THE SOCIAL WORLD
SOCI UN3000	SOCIAL THEORY
SOCI UN3010	METHODS FOR SOCIAL RESEARCH

### Elective Courses

Select three courses (10 points) in the Department of Sociology, one of which must be a seminar. Some examples of electives include:

SOCI UN3900	Societal Adaptations to Terrorism
SOCI UN3914	INEQUALITY, POVERTY # MOBILITY
SOCI UN3915	Stigma and Discrimination
SOCI UN3931	Sociology of the Body
SOCI UN3974	SOCI OF SCHOOLS,TEACH,LEARNING
SOCI UN3985	Queer Practice
SOCI UN3995	Senior Seminar
SOCI UN3996	SENIOR SEMINAR

## STATISTICS

### DEPARTMENT OF STATISTICS:

Department website: <https://stat.columbia.edu/>

Office location: 1005 SSW (1255 Amsterdam Avenue);

Office contact: 212-851-2132

Director of Undergraduate Studies:

Ronald Neath, 615 Watson (612 West 115th Street), 212-853-1398;

[rcn2112@columbia.edu](mailto:rcn2112@columbia.edu)

Director of Academic Administration:

Dood Kalicharan, 1003 SSW (1255 Amsterdam),  
212-853-1398; [dk@stat.columbia.edu](mailto:dk@stat.columbia.edu)

## THE STUDY OF STATISTICS

Statistics is the art and science of study design and data analysis. Probability theory is the mathematical foundation for the study of statistical methods and for the modeling of random phenomena. The Statistics major builds on a foundation in probability and statistical theory to provide practical training in statistical methods, study design, and data analysis. The Statistics major is an appropriate background for graduate study in statistics, social science, epidemiology and public health, genetics, and economics; or for professional work in such areas as drug development, health policy, marketing, opinion polling, insurance, banking and finance, and government.

The Department offers several introductory courses.

- Students interested in learning statistical concepts, with a goal of being educated consumers of statistics, should take STAT UN1001 INTRO TO STATISTICAL REASONING. This course is designed for students who have taken a pre-calculus course, and the focus is on general principles.
- Students seeking an introduction to applied statistics should take STAT UN1101 INTRODUCTION TO STATISTICS. This course is designed for students who wish to learn to conduct statistical analyses, but do not have a background in calculus; the focus is on the implementation of statistical methods, rather than the underlying theory. It is recommended for pre-med students, and students considering the applied track of the statistics minor.
- Students seeking a more mathematically rigorous treatment of the subject should take STAT UN1201 CALC-BASED INTRO TO STATISTICS. This course is designed for students who have taken a semester of college calculus or the equivalent, and the focus is on preparation for further study in probability and statistical theory and methods. It is recommended for students considering the statistics major, or the theoretical track of the minor.
- Students seeking a one-semester calculus-based survey of probability and statistical theory should take STAT GU4001 INTRODUCTION TO PROBABILITY AND STATISTICS. This course is designed for students who have taken calculus, and is meant as a terminal course. It provides an abridged version of the material covered in the two-semester sequence STAT GU4203 PROBABILITY THEORY and STAT GU4204 STATISTICAL INFERENCE. While some mathematically mature students may take the 4203--4204

sequence as an introduction to the field, it is generally recommended that students prepare for it by taking STAT UN1201 CALC-BASED INTRO TO STATISTICS.

The Department offers a Major in Statistics, a Minor in Statistics, and interdisciplinary majors with Computer Science, Economics, Mathematics, and Political Science.

The major consists of mathematical and computational prerequisites, an introductory course, five core courses in probability and theoretical and applied statistics, plus three electives. The training provided by the undergraduate major is comparable to a master's degree in statistics. The applied track of the minor is suitable for students preparing for academic or professional work in fields where data analysis skills are valued; it can be completed without the mathematical prerequisite required for the major. Students who are more mathematically inclined can opt for the theoretical track, and complete a minor by taking courses from the core sequence of the statistics major.

## STUDENT ADVISING

Statistics Major and Minor Advising:  
Ronald Neath, 615 Watson (612 West 115th Street);  
212-853-1398; [rcn2112@columbia.edu](mailto:rcn2112@columbia.edu)

Data Science Major Advising:  
Computer Science: Tim Roughgarden, 410 Mudd; 212-853-8474; [tr@cs.columbia.edu](mailto:tr@cs.columbia.edu)  
([cannon@cs.columbia.edu](mailto:cannon@cs.columbia.edu))  
Statistics: Ronald Neath, 615 Watson;  
212-853-1398; [rcn2112@columbia.edu](mailto:rcn2112@columbia.edu)

Economics - Statistics Major Advising:  
Economics: Susan Elmes, 1006 IAB; 212-854-9124;  
[se5@columbia.edu](mailto:se5@columbia.edu)  
Statistics: Ronald Neath, 615 Watson;  
212-853-1398; [rcn2112@columbia.edu](mailto:rcn2112@columbia.edu)

Mathematics - Statistics Major Advising:  
Mathematics: Julien Dubedat, 601 Mathematics;  
212-854-8806; [jd2653@columbia.edu](mailto:jd2653@columbia.edu)  
Statistics: Ronald Neath, 615 Watson;  
212-853-1398; [rcn2112@columbia.edu](mailto:rcn2112@columbia.edu)

Political Science - Statistic Major Advising:  
Political Science: Andrew Gelman, 1016 SSW (1255 Amsterdam); [gelman@stat.columbia.edu](mailto:gelman@stat.columbia.edu)  
Statistics: Ronald Neath, 615 Watson;  
212-853-1398; [rcn2112@columbia.edu](mailto:rcn2112@columbia.edu)

## Enrolling in Classes

Students may wish to consult the following guidelines when undertaking course planning.

- It is advisable to take [STAT UN1101](#) INTRODUCTION TO STATISTICS and [STAT UN2102](#) Applied Statistical Computing before taking any of the more advanced



minor courses: [STAT UN2103 APPLIED LINEAR REG ANALYSIS](#), [STAT UN2104 APPL CATEGORICAL DATA ANALYSIS](#), [STAT UN3104 Applied Bayesian Analysis](#), [STAT UN3105 APPLIED STATISTICAL METHODS](#), and [STAT UN3106 APPLIED MACHINE LEARNING](#).

- It is advisable to take [STAT UN1201 CALC-BASED INTRO TO STATISTICS](#), [STAT GU4203 PROBABILITY THEORY](#), [STAT GU4204 STATISTICAL INFERENCE](#), and [STAT GU4205 LINEAR REGRESSION MODELS](#) in sequence.
- Courses in stochastic analysis should be preceded by [STAT GU4203 PROBABILITY THEORY](#), and for many students, it is advisable to take [STAT GU4207 ELEMENTARY STOCHASTIC PROCESS](#) before embarking on [STAT GU4262 Stochastic Processes for Finance](#), [STAT GU4264 STOCHASTIC PROCESSES-APPLICANTS I](#), or [STAT GU4265 STOCHASTIC METHODS IN FINANCE](#).
- Most of the statistics courses numbered from 4221 to 4234 are best preceded by [STAT GU4205 LINEAR REGRESSION MODELS](#).
- The data science courses [STAT GU4206 STAT COMP # INTRO DATA SCIENCE](#), [STAT GU4241 STATISTICAL MACHINE LEARNING](#), and [STAT GU4242 Advanced Machine Learning](#) should be taken in sequence.

## Preparing for Graduate Study

The [BA/MA option](#) allows current Columbia undergraduate students (Columbia College, SEAS, the School of General Studies, and Barnard) the opportunity to complete both the bachelor's degree and the master's degree (BA/MA) in a shorter period of time, thus providing an option that is financially advantageous. The BA/MA in Statistics is open to students from all majors.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Coursework in fulfillment of a major or minor must be taken at Columbia University unless explicitly noted here and/or expressly permitted by the Director of Undergraduate Studies. Exceptions or substitutions permitted by the Director of Undergraduate Studies should be confirmed in writing by email to the student.

## Advanced Placement

Columbia College and the School of General Studies award 3 points of credit for a score of 5 on the AP statistics exam. Students who are required to take STAT UN1101 for their major should check with their major advisor to

determine whether this credit provides exemption from their requirement.

Students pursuing a major that requires STAT UN1201 should plan to take that course at Columbia, even if they scored a 5 on the AP statistics exam. AP credit cannot be used to satisfy a requirement for STAT UN1201.

## Transfer Courses

When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit (e.g., to confirm that the courses will count toward the 124 points of credit that every student is required to complete for the B.A. degree). Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major or minor.

No more than two DUS-approved STAT courses toward a Statistics major may be fulfilled with transfer credit.

Not more than one DUS-approved STAT course toward a Statistics joint major or a Statistics minor may be fulfilled with transfer credit.

## Study Abroad Courses

Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Undergraduate Global Engagement and taught by Columbia instructors) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus. If they are not explicitly listed by the department as fulfilling requirements in the major or minor, the DUS will need to confirm that they can be used toward requirements in the major/minor.

Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia, and are subject to the same policies as other transfer courses, including limits on the number of approved STAT course that can be applied to the major/minor.

## Summer Courses

Summer courses at Columbia are offered through the School of Professional Studies. Courses taken in a Summer Term may be used toward requirements for the Statistics major or minor.

More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin.

## UNDERGRADUATE RESEARCH

Matriculated students who will be undergraduates at Columbia College, Barnard College, the School of General Studies, or the School of Engineering and Applied Sciences may apply to the Department's summer internship program. Students work under the supervision of Statistics Department



faculty mentors. The internship provides a summer housing allowance and a stipend. Applicants should send a brief statement of interest and a copy of their transcript to the Statistics DUS by the end of March to be considered. If summer project descriptions are posted on the Department's website, please indicate your preferred project(s) in your statement of interest.

Students seeking research opportunities with Statistics Department faculty during the academic year are advised to be entrepreneurial and proactive: identify congenial faculty whose research is appealing, request an opportunity to meet, and provide some indication of previous coursework when asking for a project.

## DEPARTMENT HONORS

Students are considered for department honors on the basis of GPA and the comprehensiveness and difficulty of their coursework in Statistics and related disciplines. Generally, no more than 10% of graduating majors receive departmental honors in a given academic year.

## PROFESSORS

David Blei (with Computer Science)  
 John Cunningham  
 Richard R. Davis  
 Victor H. de la Peña  
 Andrew Gelman (with Political Science)  
 Ioannis Karatzas (with Mathematics)  
 Jingchen Liu  
 Shaw-Hwa Lo  
 Marcel Nutz (with Mathematics)  
 Liam Paninski  
 Philip Protter  
 Daniel Rabinowitz  
 Bodhisattva Sen  
 Michael Sobel  
 Simon Tavaré (with Biological Sciences)  
 Zhiliang Ying  
 Ming Yuan  
 Tian Zheng (Chair)

## ASSOCIATE PROFESSORS

Samory Kpotufe  
 Arian Maleki  
 Sumit Mukherjee

## ASSISTANT PROFESSORS

Marco Avella  
 Yuqi Gu  
 Cynthia Rush  
 Anne van Delft

## TERM ASSISTANT PROFESSORS

Carsten Chong  
 Gokce Dayanikli  
 Yongchen Kwon  
 Johannes Wiesel  
 Chenyang Zhong

## ADJUNCT FACULTY

Demissie Alemayehu  
 Mark Brown  
 Guy Cohen  
 Regina Dolgoarshinnykh  
 Hammou El Barmi  
 Tat Sang Fung  
 Xiaofu He  
 Ying Liu  
 Ka-Yi Ng  
 Ha Nguyen  
 Cristian Pasarica  
 Kamiar Rahnama Rad  
 Ori Shental  
 Haiyuan Wang  
 Rongning Wu

## LECTURERS IN DISCIPLINE

Banu Baydil  
 Anthony Donoghue  
 Wayne Lee  
 Dobrin Marchev  
 Ronald Neath  
 Alex Pijyan  
 David Rios  
 Joyce Robbins  
 Gabriel Young

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Selecting a first course in Statistics:

- Students interested in learning statistical concepts, with a goal of being educated consumers of statistics, should take STAT UN1001 INTRO TO STATISTICAL REASONING. This course is designed for students who have taken a pre-calculus course, and the focus is on general principles.
- Students seeking an introduction to applied statistics should take STAT UN1101 INTRODUCTION TO STATISTICS. This course is designed for students who wish to learn to conduct statistical analyses, but

do not have a background in calculus; the focus is on the implementation of statistical methods, rather than the underlying theory. It is recommended for pre-med students, and students considering the applied track of the statistics minor.

- Students seeking a more mathematically rigorous treatment of the subject should take STAT UN1201 CALC-BASED INTRO TO STATISTICS. This course is designed for students who have taken a semester of college calculus or the equivalent, and the focus is on preparation for further study in probability and statistical theory and methods. It is recommended for students considering the statistics major, or the theoretical track of the minor.
- Students seeking a one-semester calculus-based survey of probability and statistical theory should take STAT GU4001 INTRODUCTION TO PROBABILITY AND STATISTICS. This course is designed for students who have taken calculus, and is meant as a terminal course. It provides an abridged version of the material covered in the two-semester sequence STAT GU4203 PROBABILITY THEORY and STAT GU4204 STATISTICAL INFERENCE. While some mathematically mature students may take the 4203--4204 sequence as an introduction to the field, it is generally recommended that students prepare for it by taking STAT UN1201 CALC-BASED INTRO TO STATISTICS.

## Course Numbering Structure

The 1000-level courses (STAT UN1001, STAT UN1101 and STAT UN1201) are introductory courses. Most students will begin their study of statistics with one of these three courses.

The 2000-level courses (STAT UN2102, STAT UN2103 and STAT UN2104) are courses in computational and applied statistics, with STAT UN1101 or STAT UN1201 as a prerequisite. These are important courses in the minor program; students pursuing a statistics major will learn this material by studying the more mathematical treatment given in the 4000-level courses.

The 3000-level courses (STAT UN3104, STAT UN3105 and STAT UN3106) introduce more specialized statistical methods which build on the material introduced in STAT UN2102 and STAT UN2103. While the statistical methods covered in these courses can be quite advanced, the mathematical level remains modest. Again, these courses are part of the minor curriculum, and students completing a statistics major will learn this material elsewhere in the statistics curriculum.

STAT GU4001 is a one-semester calculus-based course in probability and statistics, intended for students who seek a

mathematically rigorous course, but do not intend to major or minor in statistics (for most, this will be a terminal course).

The 4200-level courses are intended for students majoring in statistics and related disciplines.

Courses numbered 4203 through 4207 introduce fundamental material in probability theory, statistical inference, data analysis, and statistical computing; these courses comprise the core of the statistics major.

Courses numbered 4221 through 4234 cover specialized statistical data analysis techniques, and are possible electives for students in the statistics major.

Courses numbered 4241 through 4243 introduce modern tools in machine learning and data science.

Courses numbered between 4261 and 4265 cover statistical and probabilistic theory and methods in modern finance.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in Statistics

The major should be planned with the director of undergraduate studies. Courses taken for a grade of Pass/D/Fail, or in which the grade of D has been received, do not count toward the major. The major requires 14 courses, as follows:

Mathematics Prerequisite (four courses)

MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II
MATH UN1201	CALCULUS III
MATH UN2010	LINEAR ALGEBRA

Computer Science Requirement (one course). Choose one of the following

COMS W1004	Introduction to Computer Science and Programming in Java
ENGI E1006	INTRO TO COMP FOR ENG/ APP SCI
STAT UN2102	Applied Statistical Computing

Statistical prerequisite (one course)

STAT UN1201	CALC-BASED INTRO TO STATISTICS
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Core courses in probability and statistics (five courses):

STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS
STAT GU4206	STAT COMP # INTRO DATA SCIENCE
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS

Electives (three courses):

An approved selection of three advanced courses in mathematics, statistics, applied mathematics, industrial engineering and operations research, computer science, or an advanced quantitative course in a social science. At least one elective must be a Statistics Department course numbered between 4221 and 4291

- The mathematics prerequisite can also be satisfied by taking the Honors Mathematics A and B sequence, MATH UN1207 and MATH UN1208.
- Students preparing for graduate study in statistics are encouraged to replace two electives with MATH GU4061 INTRO MODERN ANALYSIS I and MATH GU4062 INTRO MODERN ANALYSIS II .

## Major in Data Science

In response to the ever increasing importance of “big data” in scientific and policy endeavors, the last few years have seen an explosive growth in theory, methods, and applications of AI and machine learning. The Department of Computer Science and the Department of Statistics jointly offer a Data Science major that emphasizes the interface between the two disciplines.

The major requires 18 courses, as follows. (Courses taken for a grade of Pass/D/Fail, or in which the grade of D has been received, do not count toward the major.)

Notes:

The mathematics prerequisite can also be satisfied by taking the Honors Mathematics A and B sequence, MATH UN1207 and MATH UN1208.

### Mathematical Prerequisites

MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II
MATH UN1201	CALCULUS III
	or MATH UN1205 ACCELERATED MULTIVARIABLE CALC
MATH UN2010	LINEAR ALGEBRA

### Statistics Required Courses

STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS
STAT GU4241	STATISTICAL MACHINE LEARNING
	or COMS W4771 MACHINE LEARNING

### Statistics Electives

Select two of the following courses:

STAT UN3106	APPLIED MACHINE LEARNING
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STAT GU4206	STAT COMP # INTRO DATA SCIENCE
STAT GU4243	APPLIED DATA SCIENCE
STAT GU4224	BAYESIAN STATISTICS
STAT GU4242	Advanced Machine Learning

### Computer Science Introductory Courses

Select one of the following courses:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
ENGI E1006	INTRO TO COMP FOR ENG/ APP SCI
COMS W1007	

And select one of the following courses:

COMS W3134	Data Structures in Java
COMS W3136	ESSENTIAL DATA STRUCTURES
COMS W3137	HONORS DATA STRUCTURES # ALGOL

### Computer Science Required Courses

COMS W3203	DISCRETE MATHEMATICS
CSOR W4231	ANALYSIS OF ALGORITHMS I

### Computer Science Electives

Select three of the following courses:

COMS W3261	COMPUTER SCIENCE THEORY
COMS W4236	INTRO-COMPUTATIONAL COMPLEXITY
COMS W4252	INTRO-COMPUTATIONAL LEARN THRY
COMS W4111	INTRODUCTION TO DATABASES
COMS W4130	
Any COMS W47xx course EXCEPT W4771	

## Major in Economics-Statistics

Please read *Requirements for all Economics Majors, Concentrators, and Interdepartmental Majors* in the Economics section of this Bulletin.

The major in Economics-Statistics provides students with a grounding in economic theory comparable to that of the general economics major, but also exposes students to a more rigorous and extensive statistics training. This program is recommended for students with strong quantitative skills and for those contemplating graduate studies in economics.

Two advisers are assigned for the interdepartmental major, one in the Department of Economics and one in the Department of Statistics. The economics adviser can only

advise on economics requirements and the statistics adviser can only advise on statistics requirements.

Students should be aware of the rules regarding the use of the Pass/D/Fail option. Courses in which a grade of D has been received do not count toward the major requirements.

The economics-statistics major requires 18 courses, as follows:

Notes:

- The mathematics prerequisite can also be satisfied by taking the Honors Mathematics A and B sequence, MATH UN1207 and MATH UN1208.

### Economics Core Courses

Complete the Economics core courses.

### Economics Electives

Select three electives at the 3000-level or above, of which no more than one may be a Barnard course.

### Mathematics

Select one of the following sequences:

MATH UN1101      CALCULUS I  
& MATH UN1102      and CALCULUS II  
& MATH UN1201      and CALCULUS III  
& MATH UN2010      and LINEAR ALGEBRA

MATH UN1101      CALCULUS I  
& MATH UN1102      and CALCULUS II  
& MATH UN1205      and ACCELERATED  
& MATH UN2010      MULTIVARIABLE CALC  
                                 and LINEAR ALGEBRA

MATH UN1207      HONORS MATHEMATICS A  
& MATH UN1208      and HONORS  
                                 MATHEMATICS B

### Statistics

STAT UN1201      CALC-BASED INTRO TO  
                                 STATISTICS

STAT GU4203      PROBABILITY THEORY

STAT GU4204      STATISTICAL INFERENCE

STAT GU4205      LINEAR REGRESSION  
                                 MODELS

One elective from among courses numbered  
STAT GU4206 through GU4266.

### Computer Science

Select one of the following courses:

COMS W1004      Introduction to Computer  
                                 Science and Programming in  
                                 Java

COMS W1005      Introduction to Computer  
                                 Science and Programming in  
                                 MATLAB

COMS W1007

ENGI E1006      INTRO TO COMP FOR ENG/  
                                 APP SCI

STAT UN2102      Applied Statistical Computing

### Seminar

ECON GU4918

SEMINAR IN  
ECONOMETRICS

## Major in Mathematics-Statistics

This major program is designed to prepare students for: (1) a career in industries, such as finance and insurance, that require a high level of mathematical sophistication and a substantial knowledge of probability and statistics; and (2) graduate study in quantitative disciplines.

The major requires 14 courses, as follows. (Courses taken for a grade of Pass/D/Fail, or in which the grade of D has been received, do not count toward the major.):

### Mathematics

Select one of the following sequences:

MATH UN1101      CALCULUS I

MATH UN1102      CALCULUS II

MATH UN1201      CALCULUS III

MATH UN2010      LINEAR ALGEBRA

MATH UN2500      ANALYSIS AND  
                                 OPTIMIZATION

OR

MATH UN1101      CALCULUS I

MATH UN1102      CALCULUS II

MATH UN1205      ACCELERATED  
                                 MULTIVARIABLE CALC

MATH UN2010      LINEAR ALGEBRA

MATH UN2500      ANALYSIS AND  
                                 OPTIMIZATION

OR

MATH UN1207      HONORS MATHEMATICS A

MATH UN1208      HONORS MATHEMATICS B

MATH UN2500      ANALYSIS AND  
                                 OPTIMIZATION

### Statistics required courses

STAT UN1201      CALC-BASED INTRO TO  
                                 STATISTICS

STAT GU4203      PROBABILITY THEORY

STAT GU4204      STATISTICAL INFERENCE

STAT GU4205      LINEAR REGRESSION  
                                 MODELS

### And select one of the following courses:

STAT GU4207      ELEMENTARY STOCHASTIC  
                                 PROCESS

STAT GU4262      Stochastic Processes for Finance

STAT GU4264      STOCHASTIC PROCESSES-  
                                 APPLICATNS I

STAT GU4265      STOCHASTIC METHODS IN  
                                 FINANCE

### Computer Science

Select one of the following courses:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
ENGI E1006	INTRO TO COMP FOR ENG/ APP SCI
COMS W1007	or an advanced Computer Science offering in programming

**Electives**

An approved selection of three advanced courses in mathematics, statistics, applied mathematics, industrial engineering and operations research, computer science, or approved mathematical methods courses in a quantitative discipline. At least one elective must be a Mathematics Department course numbered 3000 or above.

- Notes:
- The mathematics prerequisite can also be satisfied by taking the Honors Mathematics A and B sequence, MATH UN1207 and MATH UN1208.
- Students preparing for doctoral study in mathematics or statistics are encouraged to take MATH GU4061 INTRO MODERN ANALYSIS I and MATH GU4062 INTRO MODERN ANALYSIS II.

**Major in Political Science–Statistics**

The interdepartmental major of political science–statistics is designed for students who desire an understanding of political science to pursue advanced study in this field and who also wish to have at their command a broad range of sophisticated statistical tools to analyze data related to social science and public policy research.

Students should be aware of the rules regarding the use of the Pass/D/Fail option. Courses in which a grade of D has been received do not count toward the major requirements.

The political science-statistics major requires a minimum of 6 courses in political science, and 7 or 8 courses in statistics & mathematics, to be distributed as follows:

**Political Science**

Students must choose a primary subfield to study. Within the subfield, students must take a minimum of three courses, including the subfield's introductory course. The subfields and their corresponding introductory courses are as follows:

American Politics:

POLS UN1201	INTRO TO AMERICAN POLITICS
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Comparative Politics:

POLS UN1501	INTRO TO COMPARATIVE POLITICS
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International Relations:

POLS UN1601	INTERNATIONAL POLITICS
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Political Theory:

POLS UN1101	POLITICAL THEORY I
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Additionally, students must take a 4-point seminar in their primary subfield.

**Research Methods**

Students must take the following two research methods courses:

POLS GU4710	PRINC OF QUANT POL RESEARCH 1
or POLS UN3704	RESEARCH DESIGN: DATA ANALYSIS
POLS GU4712	PRINC OF QUANT POL RESEARCH 2

**Statistics**

Select one of the following two sequences.

Sequence recommended for students preparing for graduate study in statistics.

MATH UN1101	CALCULUS I
MATH UN1102	CALCULUS II
MATH UN2010	LINEAR ALGEBRA
STAT UN1201	CALC-BASED INTRO TO STATISTICS
STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS
STAT GU4206	STAT COMP # INTRO DATA SCIENCE

Students taking the first track may replace the Mathematics prerequisites with both of MATH UN1207 and MATH UN1208

or

Sequence recommend for students preparing to apply statistical methods in the social sciences.

STAT UN1101	INTRODUCTION TO STATISTICS
STAT UN2102	Applied Statistical Computing
STAT UN2103	APPLIED LINEAR REG ANALYSIS
STAT UN2104	APPL CATEGORICAL DATA ANALYSIS
STAT UN3105	APPLIED STATISTICAL METHODS
STAT UN3106	APPLIED MACHINE LEARNING

Statistics elective:

Students must take an approved elective in a statistics or a quantitatively oriented course in a social science.

**Minor in Statistics**

The minor requires five courses, distributed as follows.

Students should select one of the following two tracks.



The requirements for the Applied track of the statistics minor are:

Introduction to statistics (one course): Choose one of the following

STAT UN1101 INTRODUCCION TO STATISTICS

STAT UN1201 CALC-BASED INTRO TO STATISTICS

Applied statistics core (two courses): Take both of the following

STAT UN2102 Applied Statistical Computing

STAT UN2103 APPLIED LINEAR REG ANALYSIS

Statistics electives (two courses): Choose any two of the following

STAT UN2104 APPL CATEGORICAL DATA ANALYSIS

STAT UN3104 Applied Bayesian Analysis

STAT UN3105 APPLIED STATISTICAL METHODS

STAT UN3106 APPLIED MACHINE LEARNING

The requirements for the Theoretical track are:

Introduction to Statistics (one course)

STAT UN1201 CALC-BASED INTRO TO STATISTICS

Probability and statistics core (three courses)

STAT GU4203 PROBABILITY THEORY

STAT GU4204 STATISTICAL INFERENCE

STAT GU4205 LINEAR REGRESSION MODELS

Elective (one course)

One additional STAT course numbered 4206 through 4261

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

Concentrations are available to students who entered Columbia in or before the 2023-2024 academic year. The requirements for the Bachelor of Arts degree, and the role of the concentration in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Concentrations are not available to students who entered Columbia in or after Fall 2024.

## Concentration in Statistics

The concentration requires 6 courses in statistics, as follows.

Courses taken for a grade of Pass/D/Fail, or in which the grade of D has been received, do not count towards the concentration.

STAT UN1101 INTRODUCTION TO STATISTICS

STAT UN2102 Applied Statistical Computing

STAT UN2103 APPLIED LINEAR REG ANALYSIS

STAT UN2104 APPL CATEGORICAL DATA ANALYSIS

STAT UN3105 APPLIED STATISTICAL METHODS

STAT UN3106 APPLIED MACHINE LEARNING

(Students may replace courses nominally required for the concentration by approved Statistics Department courses.)

## SUSTAINABLE DEVELOPMENT

### THE SUSTAINABLE DEVELOPMENT PROGRAM:

Department website: <http://sdev.ei.columbia.edu>

Office location: The Earth Institute, 2910 Broadway, Hogan Hall, B-Level, New York, NY 10025

#### Co-Directors of Undergraduate Studies:

Leah Aronowsky, 212-854-3830; [la2438@columbia.edu](mailto:la2438@columbia.edu)

Joerg Schaefer, 845-365-8703, [schaefer@ldeo.columbia.edu](mailto:schaefer@ldeo.columbia.edu)

**Undergraduate Administrator:** Sylvia Montijo; [smontijo@climate.columbia.edu](mailto:smontijo@climate.columbia.edu)

### THE STUDY OF SUSTAINABLE DEVELOPMENT

Sustainable development is founded on the premise that human well-being should advance without irreparable harm to ecosystems and the vital services they provide, without depleting essential resources, and without posing risks to future generations. The term "sustainable" refers to managing the world's economy in a manner consistent with the continued healthy functioning of Earth's ecosystems, oceans, atmosphere and climate. In this context, "development" refers to continued social, political, and economic progress aimed at improving the well-being of the global community, especially for the poorest people.

Academic Programs

The Earth Institute—in collaboration with Columbia College, the School of General Studies, the School of International and Public Affairs, and the Departments of Earth and Environmental Science; Ecology, Evolution, and Environmental Biology; and Earth and Environmental Engineering—offers a major and a special concentration in sustainable development.

These programs are designed to: engage students in this emergent interdisciplinary discussion, provide knowledge of the theory and practice of sustainable development, stimulate a critical examination of historical and conceptual antecedents, provide experience in the complex challenges of sustainable development through direct engagement, and help them imagine alternative futures for our rapidly changing world. With help from the Earth Institute faculty, courses are specifically created to address the very real and complex issues of development as they relate to the interactions of the natural and social systems.

The major focuses heavily on the sciences and provides students with a working knowledge of issues on a range of interacting subject areas. After declaring the major, students are assigned an academic adviser from within the Earth Institute, who advises on class selection and career development. Students benefit from a support system of faculty, advisers, and program managers, and have access to a multitude of resources for internships, study abroad programs, and career development.

The special concentration is intentionally more flexible, but its structure allows students to benefit from the cross-disciplinary courses and to build the expertise to allow them to address the fundamental issue of how to move towards a trajectory of sustainability.

The sustainable development program is structured to ensure that students graduate with the skills and knowledge to enable them to advance professionally in the public, private, governmental, and nonprofit sectors, and to pursue advanced degrees. Those interested in sustainable development are encouraged to participate in lectures, conferences, and other programs sponsored by the Earth Institute.

## STUDENT ADVISING

Co-Directors of Undergraduate Studies:

- Leah Aronowsky, 212-854-3830; [la2438@columbia.edu](mailto:la2438@columbia.edu)
- Joerg Schaefer, 845-365-8703, [schaefer@ldeo.columbia.edu](mailto:schaefer@ldeo.columbia.edu)

Undergraduate Administrator:

- Sylvia Montijo; [smontijo@climate.columbia.edu](mailto:smontijo@climate.columbia.edu)

## Consulting Advisers

Prospective students can declare the major or special concentration using the online declaration system. Please direct any program questions to Sylvia Montijo ([smontijo@climate.columbia.edu](mailto:smontijo@climate.columbia.edu)), who is located in the Earth Institute's offices in [Hogan Hall](#).

Columbia College

Columbia College students typically declare their major or concentration (and any special concentration) through the Center for Student Advising during the spring semester of their sophomore year. More information is available on the Center for Student Advising [website](#).

School of General Studies

General Studies students may declare a major or concentration during the months of March and October. Additional details are available on the General Studies [website](#).

Program staff are available to discuss requirements, course substitutions and registration. Please direct these questions to Sylvia Montijo; [sm4084@columbia.edu](mailto:sm4084@columbia.edu)

## Enrolling in Classes

The sustainable development foundation courses should be taken first and students should then work with the program adviser on further course selection and sequencing. The major in sustainable development requires a minimum of 15 courses and a practicum as [follows](#).

Students should take the following foundational courses in their first year at Columbia:

- EESC UN2330 Science for Sustainable Development (offered in fall)—this course satisfies the science core requirement
- SDEV UN2300 Challenges of Sustainable Development (offered in spring)

Course Substitution:

If you would like to have a course count for credit that was taken outside of the listed program requirements, the course must first go through a review and approval process. This includes electives not listed on the pre-approved list, transfer credits, study abroad, and Columbia courses not explicitly listed on the requirements list. To request approval, you must submit a course substitution form, linked below, to Sylvia Montijo at [sm4084@columbia.edu](mailto:sm4084@columbia.edu).

Restrictions:

- Requests for course substitutions will not be accepted beyond the first semester of your senior year. You may

need to return for an additional semester to complete the program requirements.

- Substitutions for the foundational courses (EESC 2330 Science for Sustainable Development and SDEV UN2300 Challenges of Sustainable Development) are not allowed.

Reviews are completed on a monthly basis and your decision will be e-mailed to you. A maximum of 4 course substitutions are permitted for majors and 2 course substitutions for special concentrators. The limit excludes the approval of elective courses.

#### Practicum Substitution:

Students in both the sustainable development major and special concentration are required to complete a Practicum. If a student wishes to substitute the Practicum requirement with a related internship or independent study, he/she will need to submit this form for pre-approval by the program directors. If your internship/independent study is pre-approved, you will need to enroll in the SDEV UN3998 Independent Study course during the same semester you undertake the approved internship/project OR the semester immediately following the completion of the internship/study. If you complete 42.5 contact hours, you are eligible to register for 1 credit. If you complete 85 contact hours or more, you are eligible to register for 2 credits. At the end of the semester you are enrolled in SDEV 3998, you will be asked to submit a Practicum Substitution Application to Sylvia Montijo at sm4084@columbia.edu. If you have successfully completed the application and received a passing grade, your internship/project will fulfill the practicum requirement. Please note only unpaid internships/independent studies are eligible for practicum credit.

### Preparing for Graduate Study

Accelerated 5 Year Program: Sustainable Development (B.A.) and Sustainability Management (M.S.)

Launched in Fall 2015 this companion degree program — offered in collaboration with The Earth Institute, Columbia College, the School of General Studies and the School of Professional Studies — allows students to earn both a bachelor's and a master's degree in just five years. Students are trained to become sustainability practitioners who understand the complex environmental challenges facing the world. They develop practical skills in management, quantitative analysis, and sustainability to transform the way that organizations do business.

Building upon the strong foundation of their undergraduate coursework, Sustainable Development students who are accepted into the Sustainability Management program will learn to draw from interdisciplinary perspectives in general, as well as develop specific skills and knowledge in financial management, quantitative analysis, public policy, and the

physical dimensions of sustainability. Students will receive practical professional training to help them to understand the systematic and organizational role of sustainability in any organization.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Coursework in fulfillment of a major or minor [or special program or concentration] must be taken at Columbia University unless explicitly noted here and/or expressly permitted by the Director of Undergraduate Studies of the program. Exceptions or substitutions permitted by the Director of Undergraduate Studies should be confirmed in writing by email to the student.

### Advanced Placement

To ensure their advanced placement credits are transferred to Columbia, students are encouraged to work closely with their advising dean. For consideration of major credit, students must submit a course petition form, available [here](#), for review by the program's Co-Directors.

### Barnard College Courses

Several Barnard College courses have been approved for program requirements in the major, special concentration, and minor. See program requirements page for more details. Students must submit a course substitution form, available [here](#), to have additional Barnard coursework reviewed for program credit.

### Transfer Courses

When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit (e.g., to confirm that the courses will count toward the 124 points of credit that every student is required to complete for the B.A. degree). Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major or minor or special program or concentration.

- A maximum of 4 course substitutions are permitted for majors and 2 course substitutions for special concentrators. The limit excludes the approval of elective courses. No course substitutions are permitted for minors.
- Students must submit a course petition form, available [here](#), for review by the program's Co-Directors for any transfer coursework.

### Study Abroad Courses

Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Undergraduate Global Engagement and taught by Columbia instructors) are treated as Columbia courses, equivalent to those taken on the

Morningside Heights campus. If they are not explicitly listed by the department as fulfilling requirements in the major or minor [or special program or concentration], the DUS will need to confirm that they can be used toward requirements in the major/minor.

Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia, and are subject to the same policies as other transfer courses. There will be a limit on the number of courses taken abroad that can be applied to the major/minor, and they must be approved by the DUS.

Study abroad and internships are strongly encouraged as a basis for thesis research and to provide students with practical experience and enhanced global awareness. The Global Fellows in Sustainable Development Program provides funding for students to further their studies off campus in the form of fieldwork and research.

## Summer Courses

Summer courses at Columbia are offered through the School of Professional Studies. Courses taken in a Summer Term may be used toward requirements for the major/minor only as articulated in department/institute/center guidelines or by permission of the Director(s) of Undergraduate Studies. More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

The Senior Research Seminar, offered jointly with Barnard College, can be taken in the Spring/Fall or Fall/Spring sequence and includes guided, independent, in-depth research as well as discussions about scientific presentations and posters, data analysis, library research methods, and scientific writing culminating in the senior thesis. Each student is responsible for oral research presentations and an extended written report on a related subject of his or her choice. Completing a senior thesis with a B+ or better in both seminar courses is required for departmental honors. As of spring 2024, over 70+ students have completed a thesis with the sustainable development program. A list of past SDEV senior theses are here.

## Undergraduate Research in Courses

SDEV 4101 Qualitative Research Methods

This course will provide an overview of social science research methods, with a focus on building a toolkit for undergraduate students. We begin with an overview of the science of knowing. How do we generate scientific hypotheses in the social sciences, and then how can we find out whether those hypotheses are accurate? An exploration of a range of qualitative research methods will occupy the majority of our class time, including interviewing, case

studies, questionnaires, surveys, coding, and participant observation. Toward the end of the course we consider how mixed methods allow for the integration of quantitative tools in the social sciences. Throughout, students will both study and practice these research methods, experimenting to better understand the strengths and challenges associated with each approach. The course will end with poster presentations in which students share their own research and justify the methods they have employed.

## Senior Thesis Coursework and Requirements

The Senior Research Seminar, offered jointly with Barnard College, can be taken in the Spring/Fall or Fall/Spring sequence and includes guided, independent, in-depth research as well as discussions about scientific presentations and posters, data analysis, library research methods, and scientific writing culminating in the senior thesis. Each student is responsible for oral research presentations and an extended written report on a related subject of his or her choice. Completing a senior thesis with a B+ or better in both seminar courses is required for departmental honors. As of spring 2024, over 70+ students have completed a thesis with the sustainable development program.

## Undergraduate Research Outside of Courses

The Climate School offers undergraduate students research assistant opportunities. Undergraduates from Columbia University serve as research assistants on projects related to climate and sustainable development and the environment with distinguished faculty and researchers at the cutting edge of this burgeoning field.

While research assistant positions at Columbia University are generally awarded to graduate students, this program instead aims to present undergraduates with a unique opportunity to be involved in research at a high level and to gain valuable experience and skills for their future academic and professional careers.

More information on student opportunities through the Climate School can be found here.

## DEPARTMENT HONORS AND PRIZES

### • Department Honors

Sustainable Development majors who wish to be considered for departmental honors must:

1. Have a grade point average of at least 3.7 in their major courses.
2. Take two courses of the senior thesis seminar.
3. Receive at least a B+ in both senior thesis courses.



## • Academic Prizes

### Stuart Gaffin Award for Leadership and Engagement

The Stuart Gaffin Award for Leadership and Engagement honors an individual or group of students in their senior year who will graduate with either a major or special concentration degree from the Undergraduate Program in Sustainable Development. The award commemorates Professor Stuart Gaffin, who taught the Workshop in Sustainable Development from 2009-2019. Award selections will be based on nominating and supporting letters from students, faculty, and staff. Awardees will be selected based on demonstrated leadership and service in the spirit of sustainable development either on or off campus. The award honors leadership, impact, engagement, and dedication, all of which were characteristic of Professor Gaffin's contributions to our Columbia community.

### Phi Beta Kappa

Each year 10% of graduating seniors are nominated for this honor (2% in fall and 8% in spring). Students are chosen based on the breadth, depth and rigor of their academic achievements, as well as recommendations from faculty members on their intellectual promise, character, and achievement both in and out of the classroom.

## OTHER IMPORTANT INFORMATION

### • Collaborative Research Grant

The Collaborative Research Grant, launched in 2017, provides undergraduate and masters students with an opportunity to work alongside Columbia University faculty on a research project of the student's choosing. Students may apply for funding for up to two semesters (fall/spring or spring/fall), which will enable them to explore the research project more fully than a typical one semester project would allow. Applications will be accepted from students from a variety of backgrounds and departments as long as the research focuses on an area related to environmental sustainability.

### • Denning Global Fellows in Sustainable Development

The Denning Global Fellows in Sustainable Development Program supports field research for current Columbia undergraduates studying sustainable development, either as a major or as a special concentration. This field research may take the form of actual fieldwork, unpaid research assistantships, study abroad opportunities\*, theses, senior seminar projects, or independent studies. Funding will only be awarded for activities that explicitly fulfill degree requirements, and/or further an individual's studies in sustainable development. Ideally, fieldwork should provide an opportunity to conduct research and hone practical skills

in data collection, analysis, and project management. Awards will vary in amount according to individual project needs. Current full-time Columbia students in the Undergraduate Program in Sustainable Development are eligible, provided they are in good academic standing. Learn more about previous Global Fellows [here](#).

## SUSTAINABLE DEVELOPMENT FACULTY

Susana Adamo (Center for International Earth Information Network)

Satyajit Bose (School of International and Public Affairs)

Steve Cohen (The Earth Institute; School of International and Public Affairs)

Lisa Dale (The Earth Institute; Ecology, Evolution, and Environmental Biology)

Ruth DeFries (Ecology, Evolution, and Environmental Biology) (Co-Director)

Paul Gallay (Ecology, Evolution and Environmental Biology)

Francesco Fiondella (International Research Institute for Climate and Society)

Michael Gerrard (Center for Climate Change Law and Columbia Law School)

Adela Gondek (Ecology, Evolution and Environmental Biology)

Radley Horton (Center for Climate Systems Research)

Joyce Klein-Rosenthal (The Earth Institute)

Jacqueline Klopp (The Earth Institute)

Upmanu Lall (Columbia Water Center; International Research Institute for Climate and Society)

Kytt McManus (Center for International Earth Science Information Network)

Rachel Moresky (Population and Family Health)

John Mutter (Earth and Environmental Sciences; School of International and Public Affairs)

Linda Pistoletti (Center for International Earth Science Information Network)

Jason Smerdon (Lamont-Doherty Earth Observatory) (Co-Director)

Martin Stute (Lamont-Doherty Earth Observatory)



Phil Weinberg (Ecology, Evolution and Environmental Biology)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Students who entered Columbia (as first-year students or as transfer students) in or after Fall 2024 may select from a curriculum of majors and minors. The requirements for the Bachelor of Arts degree, and role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Students who entered Columbia in or before the 2023-2024 academic year may select from a curriculum of majors and minors and concentrations. The requirements for the Bachelor of Arts degree, and the role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

A minimum of 15 courses and a practicum are required, for a total of approximately 47 points, to complete the major. Students will take courses within the following framework:

- I. SDEV Foundation
- II. Basic Disciplinary Foundation (Natural Science, Social Science, Quantitative Foundation)
- III. Analysis and Solutions to Complex Problems
- IV. Skills/Actions
- V. Elective
- VI. Practicum
- VII. Workshop

For a full list of previously approved electives, please visit the sustainable development program [website](#).

Note:

Please visit the Sustainable Development website for requirements [majors](#).

### Course Numbering Structure

- 1000-2000-level courses are intended to be introductory (such as the Social Science sequence or the Foundation coursework).
- 3000-4000-level courses cover more advanced sustainable development concepts, such as the Skills/

Actions, Complex Problems, or Elective requirements. Approved courses in the MS in Sustainability Management are also offered at the 4000-level.

- 5000-level courses are additional master's level courses (i.e., Climate and Society courses).
- 6000-level and above are PhD courses.

### Guidance for First-Year Students

Students must first be accepted into Columbia College or the School of General Studies to be eligible to declare the Sustainable Development program. Prospective students should review the course requirements and schedule an appointment with the program administrators to discuss any questions regarding the requirements. Prospective students can declare the major or special concentration using the online declaration system.

### Guidance for Transfer Students

Transfer students are advised to submit [course petitions](#) to have their prior coursework reviewed for major credit. Course petitions will not be accepted for foundation coursework (SDEV 2300 Challenges of Sustainable Development and EESC 2330 Science for Sustainable Development).

## UNDERGRADUATE PROGRAMS OF STUDY

### Required Coursework for all Programs

#### Major:

A minimum of 15 courses and a practicum are required, for a total of approximately 47 points, to complete the major. Students will take courses within the following framework:

- I. SDEV Foundation
- II. Basic Disciplinary Foundation (Natural Science, Social Science, Quantitative Foundation)
- III. Analysis and Solutions to Complex Problems
- IV. Skills/Actions
- V. Elective
- VI. Practicum
- VII. Workshop

A letter grade of C- or better is needed in all program related courses in order to satisfy the requirements for the major. P/F grades are only permitted in SDEV 3998.

For course descriptions and scheduling, check out the sustainable development [Bulletin](#).

#### Special concentration:

The special concentration is intentionally more flexible than the major, given that students have their major classes as well. However, its structure allows students to benefit from the program's cross-disciplinary courses and to build the expertise that will allow them to address the fundamental issue of how to move toward a trajectory of sustainability.

A minimum of nine courses and a practicum are required for the special concentration. Students will take courses within the following framework:

- I. SDEV Foundation
- II. Natural Science Systems
- III. Social Science Systems
- IV. Analysis and Solutions to Complex Problems
- V. Skills/Actions
- VI. Practicum
- VII. Workshop

A letter grade of C- or better is needed in all program related courses in order to satisfy the requirements for the special concentration. P/F grades are only permitted in SDEV 3998.

For course descriptions and scheduling, check out the sustainable development [Bulletin](#).

## Major in Sustainable Development

A minimum of 15 courses and a practicum are required, for a total of approximately 47 points, to complete the major. Students will take courses within the following framework:

### Sustainable Development Foundation

SDEV UN1900 INTRO TO SUSTAINABLE DEVPT SEM (Beginning fall 2023, SDEV 1900 Introduction to Sustainable Development is no longer a required course for students in the major and special concentration. See note below.)<sup>1</sup>

SDEV UN2300 CHALLENGES OF SUSTAINABLE DEV

EESC UN2330 SCIENCE FOR SUSTAINABLE DEVPT

### Basic Disciplinary Foundation

Select one of the following science sequences.

NOTE: Associated labs are required for Physics and Environmental Biology sequence.

CHEM UN1403 & CHEM UN1404 GENERAL CHEMISTRY I-LECTURES and GENERAL CHEMISTRY II-LECTURES

EEEB UN2001 & EEEB UN2002 ENVIRONMENTAL BIOLOGY I and ENVIRONMENTAL BIOLOGY II (EESC UN2310 is a co-requisite with EEEB UN2002)

EESC UN1600 & EESC UN2100

EARTH RESOURCES # SUSTAIN DEV and EARTH'S ENVIRO SYST: CLIM SYST

EESC UN1600 & EESC UN2200

EARTH RESOURCES # SUSTAIN DEV and EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH

EESC UN1600 & EESC UN2300

EARTH RESOURCES # SUSTAIN DEV and EARTH'S ENVIRO SYST: LIFE SYST (EESC UN2310 is co-requisite with EESC UN2300)

EESC UN2100 & EESC UN2200

EARTH'S ENVIRO SYST: CLIM SYST and EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH

EESC UN2100 & EESC UN2300

EARTH'S ENVIRO SYST: CLIM SYST and EARTH'S ENVIRO SYST: LIFE SYST (EESC UN2310 is co-requisite with EESC UN2300)

EESC UN2200 & EESC UN2300

EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH and EARTH'S ENVIRO SYST: LIFE SYST (EESC UN2310 is co-requisite with EESC UN2300)

PHYS UN1201 & PHYS UN1202

GENERAL PHYSICS I and GENERAL PHYSICS II (LABS PHYS 1291 and PHYS 1292 also required)

Select two of the following social science courses:

ANTH UN1002 THE INTERPRETATION OF CULTURE

ANTH UN1003 The Environment

ANTH UN2004 INTRO TO SOC # CULTURAL THEORY

ANTH BC2427 ANTHROPOLOGY OF CLIMATE CHANGE

ECON UN1105 PRINCIPLES OF ECONOMICS

HIST UN2222 NATURE # POWER: ENV HIST NORTH AMERICA

POLS UN1201 INTRO TO AMERICAN POLITICS (Students can take POLS 1201 or SDEV 2050)

POLS UN1501 INTRO TO COMPARATIVE POLITICS (Students can take POLS 1501 OR POLS 1601)

POLS UN1601 INTERNATIONAL POLITICS

SDEV UN2000 INTRO TO ENVIRONMENTAL LAW

SDEV UN2050 ENVIRONMENTAL POLICY AND GOVERNANCE

SDEV UN3400	HUMAN POPULATIONS # SDEV
SOCI UN1000	THE SOCIAL WORLD
Select one of the following quantitative foundations courses:	
EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
EESC BC3017	ENVIRONMENTAL DATA ANALYSIS
STAT S1101	INTRODUCTION TO STATISTICS (this course is approved as a quantitative foundations course starting Spring 2024)
STAT UN1101	INTRODUCTION TO STATISTICS (this course is approved as a quantitative foundations course starting Spring 2024)
STAT UN1201	CALC-BASED INTRO TO STATISTICS
MATH UN2015	Linear Algebra and Probability (This course is approved as a quantitative foundations course starting Fall 2022. This course replaces MATH UN2010 Linear Algebra as an option for this requirement.)
<b>Analysis and Solutions to Complex Problems</b>	
Select two of the following courses:	
ANTH BC3932	CLIM CHNG/GLOBAL MIGR/ HUM RGT
CIEE E3260	ENGINEERING FOR COMMUNITY DEVELOPMENT
EAEE W4304	Closing the carbon cycle
ECIA W4100	MGMT # DEVPT OF WATER SYSTEMS
EEEB G4135	Urban Ecology and Design
EESC BC3032	Agricultural and Urban Land Use: Human-Environment Interactions
EESC GU4600	EARTH RESOURCES # SUSTAIN DEV
HIST UN3712	African Climate and History
HIST GU4811	Encounters with Nature: The History and Politics of Environment, Health and Development in South Asia and Beyond
PUBH UN3100	FUNDAMENTALS OF GLOBAL HEALTH
PUBH GU4200	Environment, Health, and Justice: Concepts and Practice
SDEV UN3330	Ecological and Social Systems for Sustainable Development

SDEV UN3355	CLIMATE CHANGE AND LAW
SDEV UN3360	DISASTERS AND DEVELOPMENT
SDEV UN3366	ENERGY LAW
SDEV UN3410	Cities # Sustainability
URBS UN3565	Cities in Developing Countries: Problems and Prospects
SDEV GU4250	CLIMATE CHANGE: RESILIENCE # ADAPTATION
The Summer Ecosystems Experience for Undergraduates (SEE-U) *	
SDEV GU4650	Building Climate Justice: Co- Creative Coastal Resilience Planning

**Skills/Actions**

Select two of the following courses:

EAEE E4257	ENVIR DATA ANALYSIS # MODELING
EESC GU4050	GLOBAL ASSMT-REMOTE SENSING
EESC BC3050	BIG DATA WITH PYTHON
SDEV UN2320	ECON # FIN MTHDS FOR SDEV
SDEV UN3390	GIS FOR SUSTAINABLE DEVELOPMNT
SDEV UN3450	SPATIAL ANALYSIS FOR SDEV
SOCI UN3010	METHODS FOR SOCIAL RESEARCH
SUMA PS4100	Sustainability Management
SDEV GU4101	QUAL RESEARCH METHODS SDEV

SDEV GU4240 Science Communication

The Summer Ecosystems Experience for  
Undergraduates (SEE-U) \***Practicum**

Select one of the following courses:

SDEV GU4500	SUSTAINABILITY AND THE MEANING OF PLACE ON CUTTYHUNK ISLAND
SDEV GU4550	The New York City Watershed: From Community Displacement to Collaboration and Climate Adaptation
INAF U4420	Oil, Rights and Development
SDEV UN3998	SUPERVISED INDIVIDUAL RESEARCH
SUMA PS4310	Practicum in Innovation Sustainability Leadership
SUMA PS4734 Earth Institute Practicum	

**Electives**

Select two courses from the following areas. Courses can be combined across Areas 2-5 only. If you select Area 1, you must complete two thesis courses and these will fulfill the elective requirement:

Area 1: Senior Thesis Sequence (EESC BC3800/  
EESC BC3801 and EESC UN3901) \*\*

Area 2: Upper level courses from the approved electives  
list (see link in footnotes to access list) \*\*\*

Area 3: Additional courses listed under Analysis and  
Solutions to Complex Problem

Area 4: Additional courses listed under Skills/Actions

#### Area 5

SDEV UN3310	ETHICS OF SUSTAINABLE DEVPT
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SDEV GU4050	US WATER # ENERGY POLICY
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SDEV GU4350	PUBLIC LANDS IN THE AMERICAN WEST
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SDEV GU4600	SPECIAL TOPICS IN SDEV # CLIMATE
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#### Capstone Workshop

SDEV UN3280	WORKSHOP IN SUSTAINABLE DEVPT
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SDEV UN3550	BANGLADSH:LIFE-TECT ACTV DELTA
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SDEV GU4400	Sustainable Development in Rwanda
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! Beginning fall 2023, SDEV 1900 Introduction to Sustainable Development is no longer a required course for students in the major and special concentration. SDEV 1900 will continue to be offered every year. Please reach out to Sylvia Montijo (smontijo@climate.columbia.edu) with any questions about this change.

\* The Summer Ecosystem Experiences for Undergraduates (SEE-U): Please note that students in the major or the special concentration who take SEE-U as a 6-point course can use 3 points towards the Complex Problems requirement and 3 points towards the Skills/Action requirement. If SEE-U is taken for 3 points, it can only count as one Complex Problems class.

\*If choosing the senior thesis option to fulfill the elective requirements, students must take both courses in the senior thesis sequence.

\*For a full list of previously approved electives, please visit the sustainable development program website: <https://sdev.ei.columbia.edu/content/approved-electives-list>

Please visit the Sustainable Development website for requirements:

Majors: <http://sdev.ei.columbia.edu/curriculum/major/>

## Major in Climate and Sustainability

The major in Climate and Sustainability is a joint major between the Undergraduate Program in Sustainable Development and DEES, and requires a minimum of 46.5 points, distributed as follows:

## Climate and Sustainability Foundations

Two courses:

SDEV UN2300	CHALLENGES OF SUSTAINABLE DEV
EESC UN2330	SCIENCE FOR SUSTAINABLE DEVPT

## Basic Disciplinary Foundations

Five courses:

### A. Natural Science Courses (2):

#### Required:

EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
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#### One of the following:

EESC UN1201	Environmental Risks and Disasters
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EESC UN1600	EARTH RESOURCES # SUSTAIN DEV
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EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
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EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
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### B. Social Science Courses (2):

#### Required:

SDEV UN2100	Introduction to Climate Justice
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#### One of the following:

EESC UN1201	Environmental Risks and Disasters
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EESC UN1600	EARTH RESOURCES # SUSTAIN DEV
-------------	----------------------------------

EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
-------------	--

EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST
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### C. Quantitative Foundations Course (1):

#### One of the following:

STAT UN1201	CALC-BASED INTRO TO STATISTICS
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MATH UN2010	LINEAR ALGEBRA
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EEEB UN3005	INTRO-STAT-ECOLOGY # EVOL BIOL
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EESC BC3017	ENVIRONMENTAL DATA ANALYSIS
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Note: Taking Introduction to Statistics and Calculus separately will not fulfill the quantitative requirement.

## Climate and Sustainability: Complexities and Analyses

Four courses:

### Two courses form the following:

SDEV GU4250	CLIMATE CHANGE: RESILIENCE # ADAPTATION
SDEV UN3355	CLIMATE CHANGE AND LAW
SDEV UN3366	ENERGY LAW
ANTH BC3932	CLIM CHNG/GLOBAL MIGR/ HUM RGT
EESC GU4235	SEA LEVEL CHANGE
EAEE E4304	CLOSING THE CARBON CYCLE

One of the following Natural Science courses:

EESC GU4220	GLACIOLOGY
EESC GU4235	SEA LEVEL CHANGE
EESC GU4330	INTRO-TERRESTRIAL PALEOCLIMATE
EESC GU4835	Wetlands and Climate Change
EESC GU4920	PALEOCEANOGRAPHY
EESC GU4923	Biological Oceanography
EESC GU4925	INTRO TO PHYSICAL OCEANOGRAPHY
EESC GU4926	INTRO TO CHEMICAL OCEANOGRAPHY
EESC GU4937	CENOZOIC PALEOCEANOGRAPHY
EAEE E4304	CLOSING THE CARBON CYCLE

One of the following Social Science courses:

ANTH BC3932	CLIM CHNG/GLOBAL MIGR/ HUM RGT
ANTH UN3861	Anthropology of the Anthropocene
POLS GU4814	GLOBAL ENERGY: SECURITY/GEOPOL
SDEV UN3355	CLIMATE CHANGE AND LAW
SDEV UN3366	ENERGY LAW
SDEV GU4050	US WATER # ENERGY POLICY
ECON BC3039	Environmental and Natural Resource Economics

## Electives

Select two courses from the following areas. If you select Area 1, you must complete two thesis courses, and these will fulfill the elective requirement:

### Area 1:

EESC UN3901	SENIOR SEMINAR
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### Area 2:

Additional courses listed under the Climate and Sustainability: Complexities and Analysis requirement.

### Area 3:

Additional quantitative or qualitative methods or skills courses:

STAT UN2103	APPLIED LINEAR REG ANALYSIS
STAT UN3105	APPLIED STATISTICAL METHODS
STAT UN3106	APPLIED MACHINE LEARNING
STAT GU4203	PROBABILITY THEORY
STAT GU4204	STATISTICAL INFERENCE
STAT GU4205	LINEAR REGRESSION MODELS
STAT GU4207	ELEMENTARY STOCHASTIC PROCESS
EAEE E4257	ENVIR DATA ANALYSIS # MODELING
EESC BC3050	BIG DATA WITH PYTHON
SDEV UN3390	GIS FOR SUSTAINABLE DEVELOPMNT
SDEV UN3450	SPATIAL ANALYSIS FOR SDEV
SDEV GU4101	QUAL RESEARCH METHODS SDEV

## Practicum

### One course:

SDEV UN3998	SUPERVISED INDIVIDUAL RESEARCH
SDEV GU4500	SUSTAINABILITY AND THE MEANING OF PLACE ON CUTTYHUNK ISLAND
SDEV GU4550	The New York City Watershed: From Community Displacement to Collaboration and Climate Adaptation
SUMA PS4734	Earth Institute Practicum

## Capstone Workshop

### One course:

SDEV UN3280	WORKSHOP IN SUSTAINABLE DEVPT
SDEV UN3550	BANGLADSH:LIFE-TECT ACTV DELTA
SDEV GU4400	Sustainable Development in Rwanda

## Minor in Sustainable Development

The minor in Sustainable Development consists of five courses, enabling students to augment their education with critical interdisciplinary skills and knowledge needed to



address the urgent and complex challenges of sustainable development.

#### Minor Course Requirements

1. EESC 2330 Science for Sustainable Development (3 credits)
2. SDEV 2300 Challenges of Sustainable Development (3 credits)
3. One course from Analysis & Solutions to Complex Problems Requirement Area (3 credits)
4. Second course from Analysis & Solutions to Complex Problems Requirement Area (3 credits)
5. One course from Skills/Actions Requirement Area (3 credits)

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

Concentrations are available to students who entered Columbia in or before the 2023-2024 academic year. The requirements for the Bachelor of Arts degree, and the role of the concentration in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study. Concentrations are not available to students who entered Columbia in or after Fall 2024.

### Special Concentration in Sustainable Development

The sustainable development foundation courses should be taken first and students should then work with the program adviser on further course selection and sequencing.

The special concentration in sustainable development requires a minimum of 9 courses and a practicum as follows:

#### Sustainable Development Foundation

SDEV UN1900	INTRO TO SUSTAINABLE DEVPT SEM (Beginning fall 2023, SDEV 1900 Introduction to Sustainable Development is no longer a required course for students in the major and special concentration. See note below.) <sup>1</sup>
SDEV UN2300	CHALLENGES OF SUSTAINABLE DEV
EESC UN2330	SCIENCE FOR SUSTAINABLE DEVPT

#### Natural Science Systems

Select one of the following courses. NOTE: Associated labs are required for Physics and Environmental Biology sequence.

CHEM UN1403	GENERAL CHEMISTRY I- LECTURES
EEEB UN1001	Biodiversity
EEEB UN2002	ENVIRONMENTAL BIOLOGY II (EESC UN2310 is co-requisite with EEEB UN2002)
EESC UN1003	Climate and Society: Case Studies
EESC UN1011	Earth: Origin, Evolution, Processes, Future
EESC UN1030	OCEANOGRAPHY
EESC UN1201	Environmental Risks and Disasters
EESC UN1600	EARTH RESOURCES # SUSTAIN DEV
EESC UN2100	EARTH'S ENVIRO SYST: CLIM SYST
EESC UN2200	EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH
EESC UN2300	EARTH'S ENVIRO SYST: LIFE SYST (EESC UN2310 is co-requisite with EESC UN2300)
PHYS UN1201 & PHYS UN1291	GENERAL PHYSICS I and GENERAL PHYSICS I LAB

#### Human Science Systems

Select one of the following courses:

ANTH UN1002	THE INTERPRETATION OF CULTURE
ANTH UN1003	The Environment
ANTH UN2004	INTRO TO SOC # CULTURAL THEORY
ANTH BC2427	ANTHROPOLOGY OF CLIMATE CHANGE
ECON UN1105	PRINCIPLES OF ECONOMICS
HIST UN2222	NATURE # POWER: ENV HIST NORTH AMERICA
POLS UN1201	INTRO TO AMERICAN POLITICS (Students can take POLS 1201 OR SDEV 2050)
POLS UN1501	INTRO TO COMPARATIVE POLITICS (Students can take POLS 1501 OR POLS 1601)
POLS UN1601	INTERNATIONAL POLITICS
SDEV UN2000	INTRO TO ENVIRONMENTAL LAW
SDEV UN2050	ENVIRONMENTAL POLICY AND GOVERNANCE
SDEV UN3400	HUMAN POPULATIONS # SDEV
SOCI UN1000	THE SOCIAL WORLD

#### Analysis and Solutions to Complex Problems

Select two of the following courses:

ANTH BC3932	CLIM CHNG/GLOBAL MIGR/ HUM RGT
CIEE E3260	ENGINEERING FOR COMMUNITY DEVELOPMENT
EAEE W4304	Closing the carbon cycle
ECIA W4100	MGMT # DEVPT OF WATER SYSTEMS
EEEB G4135	Urban Ecology and Design
EESC BC3032	Agricultural and Urban Land Use: Human-Environment Interactions
EESC GU4600	EARTH RESOURCES # SUSTAIN DEV
HIST GU4811	Encounters with Nature: The History and Politics of Environment, Health and Development in South Asia and Beyond
PUBH UN3100	FUNDAMENTALS OF GLOBAL HEALTH
PUBH GU4200	Environment, Health, and Justice: Concepts and Practice
SDEV UN3330	Ecological and Social Systems for Sustainable Development
SDEV UN3355	CLIMATE CHANGE AND LAW
SDEV UN3360	DISASTERS AND DEVELOPMENT
SDEV UN3366	ENERGY LAW
SDEV UN3410	Cities # Sustainability
URBS UN3565	Cities in Developing Countries: Problems and Prospects
The Summer Ecosystem Experiences for Undergraduates (SEE-U)*	
SDEV GU4650	Building Climate Justice: Co- Creative Coastal Resilience Planning

#### Skills/Actions

Select one of the following courses:

EAEE E4257	ENVIR DATA ANALYSIS # MODELING
EESC BC3050	BIG DATA WITH PYTHON
EESC GU4050	GLOBAL ASSMT-REMOTE SENSING
SDEV UN2320	ECON # FIN MTHDS FOR SDEV
SDEV UN3390	GIS FOR SUSTAINABLE DEVELOPMNT
SDEV UN3450	SPATIAL ANALYSIS FOR SDEV
SDEV GU4101	QUAL RESEARCH METHODS SDEV
SDEV GU4240	Science Communication
SUMA PS4100	Sustainability Management

#### SOCI UN3010 METHODS FOR SOCIAL RESEARCH

The Summer Ecosystem Experiences for  
Undergraduates (SEE-U)\*

#### Practicum

Select one of the following courses:

SDEV GU4500	SUSTAINABILITY AND THE MEANING OF PLACE ON CUTTYHUNK ISLAND
SDEV GU4550	The New York City Watershed: From Community Displacement to Collaboration and Climate Adaptation
INAF U4420	Oil, Rights and Development
SDEV UN3998	SUPERVISED INDIVIDUAL RESEARCH
SUMA PS4310	Practicum in Innovation Sustainability Leadership
SUMA PS4734 Earth Institute Practicum	
<b>Capstone Workshop</b>	
SDEV UN3280	WORKSHOP IN SUSTAINABLE DEVPT
SDEV UN3550	BANGLADSH:LIFE-TECT ACTV DELTA
SDEV GU4400	Sustainable Development in Rwanda

! Beginning fall 2023, SDEV 1900 Introduction to Sustainable Development is no longer a required course for students in the major and special concentration. SDEV 1900 will continue to be offered every year. Please reach out to Sylvia Montijo (smontijo@climate.columbia.edu) with any questions about this change.

\* The Summer Ecosystem Experiences for Undergraduates (SEE-U): Please note that students in the major or the special concentration who take SEE-U as a 6-point course can use 3 points towards the Complex Problems requirement and 3 points towards the Skills/Action requirement. If SEE-U is taken for 3 points, it can only count as one Complex Problems class.

Not Sustainable Development Website for Special Concentrators: <http://sdev.ei.columbia.edu/curriculum/special-concentration/>

## URBAN STUDIES

713 Milstein Learning Center  
212-854-4073 | urbanstudies@barnard.edu

**Department Assistant:** Valerie Coates |  
vcoates@barnard.edu

## THE FIELD OF URBAN STUDIES

The Barnard–Columbia Urban Studies program enables students to explore and understand the dynamics of cities

and urbanization. Students engage the city as an amalgam of social, spatial, historical, cultural, and environmental phenomena. Students study the evolution of urban forms and social structures, which create opportunities and constraints for the exercise of human agency. They examine the city in different historical and comparative contexts, as well as in the human imagination.

Majors build an intellectual foundation that combines broad, interdisciplinary coursework and in-depth focus on a particular sub-field. The core courses expose students to the diversity of urban studies as a field, while the methods and Junior Seminar requirements introduce them to the challenge of doing original research. This prepares them for their independent senior thesis project, undertaken over the entirety of their final year. We encourage our majors to use New York City as a laboratory, and many courses draw on the vast resources of the city and include an off-campus experience.

## STUDENT LEARNING OUTCOMES

Having successfully completed the major in Urban Studies, the student will be able to:

- Describe and explain urban phenomena and relations from multiple theoretical and methodological perspectives.
- Identify and analyze diverse urban issues and problems, including their complex causes and the systems that frame their potential resolution.
- Evaluate approaches to collecting and analyzing diverse empirical data about cities.
- Design and conduct research on a particular urban issue or problem, including developing and defending a research question, conducting original research, considering its risks to subjects, analyzing data using recognized techniques, and interpreting results.
- Develop an extensive, clear, and carefully argued piece of writing.

## STUDENT ADVISING

### Advising Resources

- Prospective Columbia College majors should consult with **Amy Chazkel**, Bernard Hirschhorn Associate Professor of Urban Studies
- Prospective General Studies majors should consult with **Aaron Passell**, Associate Director of Urban Studies.
- Please send email to [urbanstudies@barnard.edu](mailto:urbanstudies@barnard.edu) to subscribe to the Urban Studies listserv.
- Urban Studies hosts Program Planning meetings in the Fall and Spring semesters and an Open House for

prospective and current majors. Scheduling information for these events is disseminated via the listserv.

## GUIDANCE FOR FIRST-YEAR STUDENTS

URBS UN1515 INTRODUCTION TO URBAN STUDIES is recommended for first-year students who are considering or would like to explore a major in Urban Studies.

## COURSEWORK TAKEN OUTSIDE OF BARNARD

### Advanced Placement Credit

- Urban Studies does not offer course exemptions for Advanced Placement or other exam scores.

### Columbia College Courses

- Courses may be taken at Columbia College or Barnard College to fulfill major requirements.

### Transfer Credit

- When students transfer to Barnard from other institutions, their coursework is first evaluated for college elective credit by the Registrar's Office. If approved, departments can consider these courses for credit toward the major or minor.
- There is no fixed maximum number of credits that transfer students may apply to the Urban Studies major, as long as the majority of major requirements are fulfilled at Barnard/Columbia. Students should present course descriptions, syllabi, and proposals to count transfer credits toward major requirements to the Director for approval.

### Study Abroad Credit

- Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Global Engagement) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus.
- Classes taken abroad through other institutions or programs are treated as transfer credit and are subject to the same policies as other transfer courses. Accordingly, there will be a limit on the number of study abroad courses that can be counted toward the major or minor.
- To receive credit toward the major or minor for a study abroad course (whether taken through a Columbia program or another institution/program), students must submit a Study Abroad Approval form through Slate and obtain the approval of the Chair or departmental representative.
- Urban Studies majors can generally count two to three courses taken in a recognized abroad program toward major requirements. Students should present course descriptions, syllabi, and proposals to count abroad

credits toward major requirements to the Director for approval before going abroad.

## Summer Credit

- Summer courses at Barnard are equivalent to those taken during the academic year. Courses that have been approved for the fulfillment of departmental requirements will automatically count toward the major.
- Courses taken at other institutions (including Columbia) are considered transfer credit and are subject to the same policies governing other transfer courses. To receive credit for a summer course taken at another institution, students must submit a Summer Course form through Slate and have it approved by both the Registrar's Office and the Chair or department representative.
- Urban Studies students should present course descriptions, syllabi, and proposals to count summer credits toward major requirements to the Director for approval, preferably before taking summer courses.

## SENIOR CAPSTONE PROJECT

### The Senior Capstone Project

- All Urban Studies majors are required to complete a senior thesis. Most do so within the year-long course URBS UN3992 URBAN STUDIES SENIOR SEMINAR and URBS UN3993 URBAN STUDIES SENIOR SEMINAR.
- Those graduating off-cycle (and other in specific circumstances) may complete the thesis requirement using two advanced seminars, usually in their area of specialization (in place of the Senior Seminar), and submit two expanded essays (20-25 pages) from those courses (in place of the thesis).

#### Associate Director

Aaron Passell (Lecturer, Urban Studies)

#### Associate Professor

Gergely Baics (History and Urban Studies)

#### Assistant Professors

Amelia Simone Herbert (Education and Urban Studies)  
 Maricarmen Hernández (Sociology and Urban Studies)  
 Angela Simms (Sociology and Urban Studies)  
 Nick R. Smith (Architecture and Urban Studies)

#### Term Assistant Professors

Christian Siener (Urban Studies)  
 Adreina Torres Angarita (Urban Studies)

#### Affiliated Faculty

Fatima Koli, Associate Director, Empirical Reasoning Center (Barnard)

Mary Rocco, Director, Office of Community Engagement & Inclusion (Barnard)

## Advisory Committee

Thea Abu El-Haj, Professor, Education Program Director/Chair  
 Elizabeth S. Blackmar, Professor of History (Columbia)  
 Merlin Chowkwanyun, Assistant Professor of Sociomedical Sciences (Columbia)  
 Karen Fairbanks, Ann Whitney Olin Professor of Professional Practice in Architecture  
 Catherine Fennell, Assistant Professor of Anthropology (Columbia)  
 Ester R. Fuchs, Professor of Public Affairs and Political Science (Columbia)  
 Kenneth T. Jackson, Professor of History (Columbia)  
 Brian Larkin, Professor of Anthropology  
 Eduardo Moncada, Associate Professor of Political Science  
 Maria Rivera Maulucci, Professor of Education  
 Jose C. Moya, Professor of History  
 Randall Reback, Professor of Economics  
 Samuel K. Roberts, Associate Professor of History and Sociomedical Sciences  
 Martin Stute, Professor of Environmental Science  
 David Weiman, Professor of Economics  
 Weiping Wu, Professor of Urban Planning and Director of Urban Planning Program (Columbia)

## MAJOR IN URBAN STUDIES

A minimum of 42 credits is required to complete the Urban Studies major. The major in Urban Studies is comprised of seven curricular requirements:

### Requirement U: Introduction to Urban Studies (1 course)

URBS UN1515 INTRODUCTION TO URBAN STUDIES

### Requirement A: Urban-Related Social Sciences (3 courses)

*One course* dealing primarily with urban subject matter from *each of three* of the following disciplines: Anthropology, Economics, History, Political Science, Sociology. For students declaring a major in Urban Studies after Spring 2018, one of the three courses *must* be History.

Each course should be chosen from the following disciplines: Anthropology, Economics, History, Political Science, Public Health, Sociology, or Urban Studies and be focused on urban issues. The three courses must be selected from three separate disciplines and they must appear on the Urban Studies approved list to fulfill the 'A' requirement for the major (if a course does not appear on the list that you believe should, please contact the Associate Director). Each course should also be taken with a different professor (i.e. you may not use two courses with the same professor to fulfill two of



your A requirements). We recommend that you complete at least two of your three 'A' courses before taking the Junior Seminar, but this is not a hard requirement.

### **Requirement B: Urban-Related Non-Social Science (1 course)**

One course dealing primarily with urban subject matter from a discipline not listed above (such as Architecture, Art History, English, Environmental Science, etc.)

### **Requirement C: Methods of Analysis (1 course)**

One course in methods of analysis, such as URBS UN2200. Methods courses in related disciplines will also be considered for the requirement. Please consult the [program website](#) or the Associate Director

### **Requirement D: Specialization (5 courses)**

Five or more courses in a specialization from one of the participating departments. Barnard College students can double-count one A, B, or C course toward this requirement (only one of five), with the approval of the Director; Columbia College and General Studies students cannot double-count courses. Barnard majors also have specific requirements for each specialization, which are outlined in detail on the program website, [urban.barnard.edu](http://urban.barnard.edu).

### **Requirement E: Junior Seminar (1 course)**

We recommend that you complete at least two of your three 'A' courses before taking the Junior Seminar, but this is not a hard requirement.

**URBS UN3545 JUNIOR SEMINAR IN URBAN STUDIES** Multiple sections of this course are taught each semester by various faculty on different topics. For more information, please consult the [program website](#) or the Associate Director.

### **Requirement F: Senior Seminar (2 courses)**

An original senior thesis written in conjunction with a two-semester research seminar on a topic of your choice.

**URBS UN3992 URBAN STUDIES SENIOR SEMINAR** **URBS UN3993 URBAN STUDIES SENIOR SEMINAR**

Students who, for some reason, will not be able to complete the Fall-Spring Senior Seminar sequence should consult with the Associate Director about alternatives.

### **Other Important Information**

A complete list and courses that fulfill requirements A–E can be found on the program's website, [urban.barnard.edu](http://urban.barnard.edu).

Appropriate substitutions may be made for courses listed above with the approval of the Associate Director.

### **Minor and Concentration**

There is no minor in Urban Studies.

There is no concentration in Urban Studies.

## **VISUAL ARTS**

### **THE VISUAL ARTS DEPARTMENT:**

Department website: <http://arts.columbia.edu/visual-arts>

Office location: 310 Dodge Hall Office contact:

212-854-4065, [visualarts@columbia.edu](mailto:visualarts@columbia.edu)

**Director of Undergraduate Studies:** Sable Elyse Smith, [ss5501@columbia.edu](mailto:ss5501@columbia.edu)

**Undergraduate Administrator:** Calvin Kim, [csk2179@columbia.edu](mailto:csk2179@columbia.edu)

### **THE STUDY OF VISUAL ARTS**

The Visual Arts Program in the School of the Arts offers studio art classes as a component of a liberal arts education and as a means to an art major, minor, and joint major with the Art History and Archaeology Department.

Courses in which a grade of D has been received do not count toward the major or minor / concentration requirements.

Only the first course a student takes in the department may be taken for a grade of Pass/D/Fail.

### **Registration**

Undergraduate Visual Arts courses are set as waitlist only. If you are interested in taking a Visual Arts course, please add your name to the waitlist of the course in which you are interested, complete the Google form the program will send you, and attend the first day of the class. Due to the limited size of our classes and often high demand, you will be replaced if you are not present and on time the first two days.

### **STUDENT ADVISING**

#### **Consulting Advisers**

- Please contact the DUS via email with any advising questions.

- If you are interested in the Undergraduate Open House please complete this [form](#).

- To view the Visual Arts Major Worksheet please download the form located [here](#).



- To view the Visual Arts Combined Major Worksheet please download the form located [here](#).

- To view the Visual Arts Minor Worksheet please download the form located [here](#).

\*Please note you can access these forms when logged into your CU email address.

## Enrolling in Classes

### Prerequisites

#### Basic Drawing, UN1000 is a prerequisite for:

Painting I, UN2100

Collage Mixed Media, UN3010

Painting II, UN3101

Painting III, UN3102

Figure Painting, UN3120

#### Painting I UN2100 is a prerequisite for:

Painting II, UN3101

Painting III, UN3102

Figure Painting, UN3120

#### Intaglio I UN2420 or Relief I UN2430 is a prerequisite for:

Drawing Into Print UN3412

Intaglio II, UN3421 (only Intaglio I, UN2420 is pre-req)

Advanced Printmaking UN4400

#### Ceramics I UN2200 is a prerequisite for:

Ceramics II, UN3201

#### Sculpture I UN2300 is a prerequisite for:

Sculpture II, UN3301 (or the Instructor's permission)

Sculpture III, UN3302

Making Without Objects, UN4310

#### Silkscreen I UN2440 is a prerequisite for:

Silkscreen II, UN3441

#### Intro to Moving Image UN3500 is a prerequisite for:

Advanced Moving Image, UN4501

#### Departmental approval is required for:

Senior Thesis I, UN3900

Visiting Critic I, UN3910

#### Senior Thesis I, UN3900 is required for:

Senior Thesis II, UN3901

#### Visiting Critic I, UN3910 is required for:

Visiting Critic II, UN3911

## Preparing for Graduate Study

Contact the DUS to schedule an appointment for advising regarding this process at the end of their sophomore year.

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Coursework in fulfillment of a major or minor in Visual Arts must be taken at Columbia University unless explicitly noted here and/or expressly permitted by the Director of Undergraduate Studies of the program. Exceptions or substitutions permitted by the Director of Undergraduate Studies should be confirmed in writing by email to the student.

## Advanced Placement

The department does not accept any advanced placement credit toward courses in its curriculum.

## Barnard College Courses

Barnard courses can be considered as transfer credit at the discretion of the Director of Undergraduate Studies.

## Transfer Courses

- When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit (e.g., to confirm that the courses will count toward the 124 points of credit that every student is required to complete for the B.A. degree). Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major or minor [or special program or concentration].

- No more than 12 points from any other degree-granting institution will be counted as points toward the Visual Arts major. Approval is required by the Director of Undergraduate Studies.

- Please complete the appropriate worksheet (major/ Combined Major/ Concentration) before scheduling a conversation with the DUS.

## Study Abroad Courses

- Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Undergraduate Global Engagement and taught by Columbia instructors) are

treated as Columbia courses, equivalent to those taken on the Morningside Heights campus. If they are not explicitly listed by the department as fulfilling requirements in the major or minor [or special program or concentration], the DUS will need to confirm that they can be used toward requirements in the major/minor.

- Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia, and are subject to the same policies as other transfer courses. There will be a limit on the number of courses taken abroad that can be applied to the major/minor, and they must be approved by the DUS.

## Summer Courses

Summer courses at Columbia are offered through the School of Professional Studies. Courses taken in a Summer Term may be used toward requirements for the major/minor only as articulated in department/institute/center guidelines or by permission of the Director(s) of Undergraduate Studies. More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin.

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

not applicable

### Senior Thesis Coursework and Requirements

Senior Thesis consists of four 2-point classes taken over two semesters and is considered the capstone experience of the Visual Arts major. They are listed in the fall semester as Senior Thesis I (2 points) and Visiting Critic I (2 points), and in the spring semester as Senior Thesis II (2 points) and Visiting Critic II (2 points). Please note that each semester, Senior Thesis and Visiting Critic run concurrently as one class taught by two faculty members. Weekly meetings include group discussions and presentations, one-on-one and group critiques, and field trips.

### REQUIREMENTS:

#### All applicants must:

- Be either a Visual Arts Major or a Combined Major in Art History and Visual Arts (note: Combined Art History and Visual Arts Majors may only apply for one of the two semesters)
- Be two semesters from completing their undergraduate requirements for graduation. It is strongly advised that majors have completed 18 points of required Visual Arts Program courses before entering Senior Thesis.
- Complete the Visual Arts Portfolio Review.

#### Applicants are asked to demonstrate:

- A commitment to developing your own unique artistic voice. This should be evident in the selection and quality of work in your presented Portfolio and in your demonstrated ability to synthesize the discrete artistic experiences you have had over the past three years—through classes and otherwise, into something greater than the sum of the parts.
- The ability to evaluate your own artwork, identifying the beginnings of the material, formal, and conceptual interests that make your work your own
- The sense of purpose, enthusiasm and vision needed to successfully embark upon a Senior Thesis in Visual Art.

### Undergraduate Research Outside of Courses

Not applicable

## DEPARTMENT HONORS AND PRIZES

### Department Honors

In March the program receives a list of Seniors that are eligible for Departmental honors. The list is distributed to the Visual Arts full-time faculty and they vote for who the recipients should be based on the quality of their work.

### Academic Prizes

- In December students are notified of the Visual Arts program's ability to nominate three Visual Arts students in their Junior year to apply for Yale's Norfolk summer program. It's a wonderful opportunity to spend a summer immersed in art-making, surrounded by talented peers and supported by dedicated faculty.

Students submit the following for review by the full-time faculty:

- 10 images of your work (with either captions or an Image List that includes Title / Year / Medium / Dimensions or a 30 second video if you time based work. A video showing 2D work will not be considered
- a short statement describing your 'art practice' (200 words maximum)
- a list of all Visual Arts studio classes taken at Columbia, including the current semester. Please list: Course Title, Semester Enrolled and Instructor
- Students must be able to attend the full program

## PROFESSORS

Matthew Buckingham  
Jon Kessler  
Shelly Silver  
Sarah Sze

Rirkrit Tiravanija  
Tomas Vu-Daniel

## ASSOCIATE PROFESSORS

Naeem Mohaiemen

## ASSISTANT PROFESSORS

Daphne Arthur (one-year appointment)  
David Antonio Cruz  
Delphine Fawundu (Director of Graduate Studies)  
Kenny Rivero (one-year appointment)  
Sable Elyse Smith (Director of Undergraduate Studies)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

- Students who entered Columbia (as first-year students or as transfer students) in or after Fall 2024 may select from a curriculum of majors and minors. The requirements for the Bachelor of Arts degree, and role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.”

- Students who entered Columbia in or before the 2023-2024 academic year may select from a curriculum of majors and minors and concentrations. The requirements for the Bachelor of Arts degree, and the role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

### Course Numbering Structure

- 1000-level: entry level courses
- 2000-level, intermediate level courses
- 3000-level, advanced level courses
- 4000-level, advanced entry level graduate courses

### Guidance for First-Year Students

Please reach out to our DUS at ss5501@columbia.edu for any advising needs.

### Guidance for Transfer Students

Please reach out to our DUS at ss5501@columbia.edu for any advising needs.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in Visual Arts

Visual Arts majors require 35 to 36 points. 32 points must be completed within the Visual Arts program consisting of seven 3-point Visual Arts studio courses; two 4-point semesters in the Senior Project; one 3-point Colloquium course and one 3 to 4-point 20th Century Art History course.

Students declare their majors online during the major declaration period in their sophomore year. After meeting with their college academic adviser, students must complete the [majors worksheet](#) and meet with the DUS to secure their signature. Please review the worksheet for detailed information regarding all Visual Arts major requirements. You can only access the worksheet with your Columbia email address.

### Joint Major in Visual Arts and Art History

Visual Arts and Art History combined majors require 46 points. 21 points must be completed within the Visual Arts program consisting of seven 3-point Visual Arts studio courses. 25 points are to be completed within the Art History department consisting of one 4-point Major's Colloquium (AHIS UN3000) and seven 3-point related courses totaling 21 points.

To declare a Visual Arts and Art History joint major students must complete the [joint majors worksheet](#) and meet with the DUS to secure their signature. Please review the worksheet for detailed information regarding all Visual Arts and Art History joint major requirements. You can only access the worksheet with your Columbia email address.

### Minor in Visual Arts

Visual Arts minors require 15 to 16 points. 12 points (four 3-point courses) must be completed within the Visual Arts program and one 3 to 4-point 20th Century Art History course. To declare a Visual Arts minor students must complete the [minor worksheet](#) and meet with the DUS to secure their signature. Please review the worksheet for detailed information. You can only access the worksheet with your Columbia email address.

## FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

Concentrations are available to students who entered Columbia in or before the 2023-2024 academic year. The requirements for the Bachelor of Arts degree, and the role of the concentration in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when

the student was a sophomore and declared programs of study. Concentrations are not available to students who entered Columbia in or after Fall 2024.

### Concentration in Visual Arts

Visual Arts concentrators require 21 to 22 points. 18 points (six 3-point courses) must be completed within the Visual Arts program and one 3 to 4-point 20th Century Art History course. Two of the Visual Arts courses must be Basic Drawing UN1000 or UN1004 and Sculpture I UN2300 or Ceramics I UN2200. Please review the [concentration worksheet](#) for detailed information. You can only access the worksheet with your Columbia email address.

## WOMEN'S AND GENDER STUDIES

### INSTITUTE FOR THE STUDY OF SEXUALITY AND GENDER:

Department website: <https://issg.columbia.edu/>

Office location: 763 Schermerhorn Extension

Office contact: 212-854-3277, [issg@columbia.edu](mailto:issg@columbia.edu)

Director of Undergraduate Studies: Professor [Elizabeth Povinelli](#), [ep2122@columbia.edu](mailto:ep2122@columbia.edu)

### UNDERGRADUATE PROGRAM

Located within the Institute for the Study of Sexuality and Gender, and taught in cooperation with Barnard College's Department of Women's, Gender, and Sexuality Studies, the program in Women's and Gender Studies provides students with a culturally and historically situated, theoretically diverse, and transnational understanding of feminist and queer scholarship as it engages multiple disciplines.

The program introduces students to key feminist and queer discourses on the cultural and historical representation of nature, power, and the social construction of difference. It encourages students to engage in the debates regarding the ethical and political issues of equality and justice that emerge in such discussion, and links the questions of gender and sexuality to those of racial, ethnic, and other kinds of social difference.

Through sequentially organized courses in Women's, Gender, and Sexuality Studies, as well as approved elective courses in a wide range of departments, the degree provides a thoroughly interdisciplinary framework, methodological training, and substantive guidance in specialized areas of research. Small classes taught by our core faculty members and mentored thesis writing give students an education that is both comprehensive and tailored to individual needs.

Graduates leave the program with critical reading, writing, and analytical skills, and gain the tools they need to analyze systems of power operating at personal, national, and international levels. While this prepares some for future scholarly work in the field of Women's, Gender, and Sexuality studies, others take these skills and apply them to careers and future training in a variety of fields, including: law, public policy, social work, community organizing, public health, film, journalism, medicine, and other professions where gender and sexuality are currently being reimagined and there is a need for critical and creative interdisciplinary thought.

### STUDENT ADVISING

Director of Undergraduate Studies: Professor Elizabeth Povinelli, [ep2122@columbia.edu](mailto:ep2122@columbia.edu)

### Consulting Advisers

For advising inquiries, students should contact the Director of Undergraduate Studies, Professor Elizabeth Povinelli, at [ep2122@columbia.edu](mailto:ep2122@columbia.edu) to schedule an appointment.

To stay informed about departmental updates and events, students can sign up for the listserv by emailing [issg@columbia.edu](mailto:issg@columbia.edu). The listserv releases a weekly newsletter every Thursday, providing information about course offerings, internship opportunities, research projects, and other relevant announcements.

ISSG hosts various events throughout the year, including an annual welcome party for students every fall semester. To view current and previous events, students can visit the [ISSG Events Page](#).

### Enrolling in Classes

Certain courses within the WGSS major may have prerequisite coursework that students are expected to have completed or pursue before enrolling. These prerequisites are designed to ensure students have the necessary background knowledge and skills to succeed in the course. Students should review the course descriptions and program requirements on the [ISSG Courses](#) page to determine if any prerequisite coursework applies to their desired courses.

### Preparing for Graduate Study

For personalized guidance on preparing for graduate study in WGSS, schedule an appointment with the WGSS Director of Undergraduate Studies. They can offer tailored advice based on your academic and career aspirations, helping you navigate the path to advanced study in the field.

### COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Coursework in fulfillment of a major or minor [or special program or concentration] must be taken at Columbia University unless explicitly noted here and/or expressly



permitted by the Director of Undergraduate Studies of the program. Exceptions or substitutions permitted by the Director of Undergraduate Studies should be confirmed in writing by email to the student.

## Barnard College Courses

All Barnard courses are treated as part of the available curriculum and accepted in the major/minor.

## Transfer Courses

When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit (e.g., to confirm that the courses will count toward the 124 points of credit that every student is required to complete for the B.A. degree). Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major or minor [or special program or concentration].

Transfer courses can be considered as transfer credit at the discretion of the Director of Undergraduate Studies. Once degree credit has been confirmed by Columbia, students should contact the Director of Undergraduate Studies (DUS) to request a review of transfer credit. Please provide course syllabi for each transfer course you wish to apply toward your degree requirements to the DUS.

## Study Abroad Courses

Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Undergraduate Global Engagement and taught by Columbia instructors) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus. If they are not explicitly listed by the department as fulfilling requirements in the major or minor [or special program or concentration], the DUS will need to confirm that they can be used toward requirements in the major/minor.

Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia, and are subject to the same policies as other transfer courses. There will be a limit on the number of courses taken abroad that can be applied to the major/minor, and they must be approved by the DUS.

## Summer Courses

Summer courses at Columbia are offered through the School of Professional Studies. Courses taken in a Summer Term may be used toward requirements for the major/minor only as articulated in department/institute/center guidelines or by permission of the Director(s) of Undergraduate Studies. More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin.

# UNDERGRADUATE RESEARCH AND SENIOR THESIS

## Undergraduate Research in Courses

Building a strong foundation in research questions and methods is integral to advancing one's understanding of Women's, Gender, and Sexuality Studies (WGSS). Through coursework, students have the opportunity to develop critical research skills while exploring key topics in the field. Here are some courses that introduce students to research methods and their significance:

WMST UN1001 Introduction to Women's and Gender Studies (or WMST UN3125 Introduction to Sexuality Studies) provides an overview of key concepts, theories, and methodologies in WGSS. Students engage with interdisciplinary approaches to studying gender, sexuality, and identity, laying the groundwork for future research endeavors.

WMST UN3311 Feminist Theory delves into the complexities of feminist thought and theory, equipping students with analytical tools to critically evaluate and conduct research within feminist frameworks. Through readings, discussions, and assignments, students explore various feminist perspectives and methodologies.

## Senior Thesis Coursework and Requirements

The senior thesis is an independent research project conducted under the guidance of a faculty advisor. It allows students to delve deeply into a specific area of interest within WGSS, applying the research skills and methodologies acquired throughout their undergraduate studies to produce an original scholarly work.

Senior thesis students must be WGSS majors and should meet with the Director of Undergraduate Studies (DUS) to ensure they fulfill all requirements before graduation. Eligible students typically begin working on their thesis in the fall of their senior year in WMST UN3521 Senior Seminar I.

For WGSS students awarded honors, participation in WMST UN3522 Senior Seminar II in the spring of their senior year provides an opportunity to further develop their thesis research and writing under faculty guidance.

# DEPARTMENT HONORS AND PRIZES

## Undergraduate Honors

Typically, honors in Women's, Gender, and Sexuality Studies will be awarded to students with (1) a grade point average of at least 3.6 or higher in Women's, Gender, and Sexuality Studies or related courses, (2) a senior thesis that has been recommended for honors by the professor of the



senior seminar and the student's faculty advisor, and (3) approval by the College.

A limited number of students are granted this standing, and final approval originates from the Dean's Office. However, the Undergraduate Director, in consultation with the senior seminar professor and the student's faculty advisor, may propose honors for an extraordinary academic performance, with final approval resting with the College.

## Undergraduate Awards & Prizes

ISSG honors undergraduates with three annual prizes recognizing outstanding intellectual achievement: the Queer Studies Award, the Women's and Gender Studies Award, and the Feminist to the Core Essay Prize.

The Queer Studies Award, inaugurated in 1994, honors an undergraduate for excellence in research and writing in Queer Studies. Winning submissions demonstrate clarity, originality, ambition, and are informed by or engaged in critical issues in Queer Studies.

The Women's and Gender Studies Award, inaugurated in 2007, honors an undergraduate for excellence in research and writing in the fields of Women's and Gender Studies. Winning submissions demonstrate clarity, originality, ambition, and are informed by or engaged in critical issues in Women's and Gender Studies.

The Feminist to the Core Essay Prize, inaugurated in 2017, is awarded annually to the undergraduate who is judged by the ISSG prize committee to have written the best essay on any topic in Feminist or Queer Studies in one of the following Core courses:

- Literature Humanities
- Contemporary Civilization
- Art Humanities
- Music Humanities

Undergraduates are invited to compete for all three awards in a given year, but may not submit the same essay for consideration for multiple awards. Prize applications can be accessed on the [ISSG Undergraduate Awards and Prizes](#) page.

Additional questions? Contact us at 212.854.3277 or by email at [issg@columbia.edu](mailto:issg@columbia.edu)

Other Important Information

## FORMS AND RELATED RESOURCES

[Major Milestone Form](#)

[Minor Milestone Form](#)

## Why WGSS?

[WGSS Library Resources at Butler](#)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Students who entered Columbia (as first-year students or as transfer students) in or after Fall 2024 may select from a curriculum of a major or a minor. The requirements for the Bachelor of Arts degree, and role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Students who entered Columbia in or before the 2023-2024 academic year may select from a curriculum of majors and minors and concentrations. The requirements for the Bachelor of Arts degree, and the role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

### Course Numbering Structure

Our course numbering system is designed to indicate the level of specialization and prerequisites associated with each course:

- 1000-level Courses: Introductory, providing foundational knowledge for students new to the subject.
- 2000-level Courses: Intermediate, building upon foundational concepts and delving deeper into specific topics.
- 3000-level Courses: Intermediate to Advanced, typically seminars, most requiring prerequisite coursework or prior knowledge and exploring complex themes and methodologies.
- 4000-level Courses: Advanced undergraduate and first year graduate courses. Typically taken by graduate students; advanced students (juniors and seniors) or those with extensive background.

### Guidance for First-Year Students

Consider enrolling in either WMST UN1001 INTRO-WOMEN # GENDER STUDIES or WMST UN3125 INTRO TO SEXUALITY STUDIES. These courses provide a

comprehensive introduction to key concepts and theories in the field.

Check course availability and prerequisites when registering for classes. Be sure to plan your schedule accordingly, keeping introductory courses in mind.

Schedule an appointment with the ISSG Director of Undergraduate Studies for personalized advice tailored to your interests and goals. They can help you plan your academic trajectory and navigate your first year effectively.

### Guidance for Transfer Students

Consider starting with either WMST UN1001 INTRO-WOMEN # GENDER STUDIES or WMST UN3125 INTRO TO SEXUALITY STUDIES. These courses provide a comprehensive introduction to key concepts and theories in the field. Prioritize classes that match your interests and degree requirements.

Transfer Credit Evaluation: After Columbia confirms degree credit, contact the ISSG DUS to review transfer courses and submit syllabi for evaluation.

You may need to complete your degree in a compressed timeline. Work closely with the ISSG DUS to ensure timely graduation.

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in Women's, Gender, and Sexuality Studies

Total Number of Courses in Major: 11

Total Points for Major: 37-43 points

WMST UN1001	INTRO-WOMEN # GENDER STUDIES
or WMST UN3125	INTRO TO SEXUALITY STUDIES
WMST UN3311	FEMINIST THEORY
WMST UN3514	HIST APPROACHES TO FEM QUESTNS
WMST UN3521	SENIOR SEMINAR I
WMST UN3915	GENDER, SEXUALITY # POWER IN TRANSNATIONAL PERSPECTIVES

Six approved Elective Courses on women, gender, and/or sexuality in consultation with the director of undergraduate studies.\*

\* Electives will be selected in coordination with the Director of Undergraduate Studies to best suit students' specific interests and to provide them with the appropriate range of courses. Students are encouraged to take a broad interdisciplinary approach. The Director of Undergraduate Studies will help students fine-tune their academic program

in conjunction with ISSG courses, cross-listed courses, and other courses offered at Columbia.

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### Minor in Women's, Gender, and Sexuality Studies

Number of Courses in Minor: 5

Total Points for Minor: 15-20 points

WMST UN1001	INTRO-WOMEN # GENDER STUDIES
or WMST UN3125	INTRO TO SEXUALITY STUDIES

Four Elective Courses on women's, gender, and/or sexuality studies selected in consultation with the ISSG Director of Undergraduate Studies (12-16 pts.)\*

\* Electives will be selected in coordination with the Director of Undergraduate Studies to best suit students' specific interests and to provide them with the appropriate range of courses. Students are encouraged to take a broad interdisciplinary approach. The Director of Undergraduate Studies will help students fine-tune their academic program in conjunction with ISSG courses, cross-listed courses, and other courses offered at Columbia.

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### FOR STUDENTS WHO ENTERED COLUMBIA IN OR BEFORE THE 2023-24 ACADEMIC YEAR

Concentrations are available to students who entered Columbia in or before the 2023-2024 academic year. The requirements for the Bachelor of Arts degree, and the role of the concentration in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Concentrations are not available to students who entered Columbia in or after Fall 2024.

### Concentration in Women's and Gender Studies

The same requirements as for the major, with the exception of WMST UN3521 SENIOR SEMINAR I.

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## Special Concentration Program for Those Majoring in Another Department

WMST UN1001 INTRO-WOMEN # GENDER STUDIES or WMST UN3125 INTRO TO SEXUALITY STUDIES; plus four additional approved elective courses on gender.

## YIDDISH STUDIES GERMANIC LANGUAGES

Department website: <https://germanic.columbia.edu/>

Office location: 414 Hamilton Hall

Office contact: 212-854-3202, [germanic@columbia.edu](mailto:germanic@columbia.edu)

Director of Undergraduate Studies: Professor Annie Pfeifer, 409 Hamilton Hall, [ap750@columbia.edu](mailto:ap750@columbia.edu), 212-854-8986

Director of the Language Program: Jutta Schmiere-Heller, [js2331@columbia.edu](mailto:js2331@columbia.edu), 212-854-5381

Director of Academic Administration and Finance: Kerstin Hofmann, 415 Hamilton Hall, [kh3168@columbia.edu](mailto:kh3168@columbia.edu), 212-854-1624

## THE DEPARTMENT OF GERMANIC LANGUAGES

The Department of Germanic Languages and Literatures is considered one of the very best in the country. Many of the faculty specialize in the study of German literature and culture from 1700 to the present. German majors acquire proficiency in examining literary, philosophical, and historical texts in the original, as well as critical understanding of modern German culture and society. Particular attention is given to German-speaking traditions within larger European and global contexts. Courses taught in translation build on Columbia's Core Curriculum, thereby allowing students to enroll in upper-level seminars before completing the language requirement.

All classes are taught as part of a living culture. Students have ample opportunities to study abroad, to work with visiting scholars, and to take part in the cultural programs at Deutsches Haus. In addition, the department encourages internships with German firms, museums, and government offices. This hands-on experience immerses students in both language and culture, preparing them for graduate study and professional careers.

Upon graduation, German majors compete successfully for Fulbright or DAAD scholarships for research in Germany or Austria beyond the B.A. degree. Our graduating seniors are highly qualified to pursue graduate studies in the humanities and social sciences, as well as professional careers. Former majors and concentrators have gone on to careers in teaching,

law, journalism, banking and consulting, international affairs, and communications.

German literature and culture courses are taught as seminars integrating philosophical and social questions. Topics include romanticism, revolution, and national identity; German intellectual history; minority literatures; Weimar cinema; German-Jewish culture and modernity; the Holocaust and memory; and the history and culture of Berlin. Classes are small, with enrollment ranging from 5 to 15 students.

The department regularly offers courses in German literature and culture in English for students who do not study the German language. The department also participates in Columbia's excellent program in comparative literature and society.

## THE YIDDISH STUDIES PROGRAM

The Yiddish Studies Program at Columbia University, the global leader in Yiddish scholarship and teaching, focuses on the experiences and cultural efflorescence of Ashkenazic Jewry over a thousand years and five continents. It is a perfect exemplar of Columbia's interests in global and transnational study, weaving together language, literature, and culture in a way that echoes the best of Columbia's justly famed humanities programs.

The program in Yiddish studies offers both the undergraduate Major, Concentration and three new Minor tracks, in addition to graduate studies leading to the Ph.D. In both the undergraduate and graduate program, emphasis is placed not merely on acquiring linguistic proficiency and textual study, but also viewing Yiddish literature in a larger cultural and interdisciplinary context. The graduate program, the only degree-granting Yiddish Studies Program in the United States, is considered one of the world's most important, with its graduates holding many of the major university positions in the field.

Students of Yiddish have ample opportunities to enhance their studies through a number of fellowships. The [Naomi Fellowship](#), a fully-subsidized Yiddish Study Abroad program allows students to explore Yiddish culture and history in Israel and Poland. The Irene Kronhill Pletka [YIVO Fellowship](#) enables students to expand on their archival research skills in New York. Upon graduation, our majors compete successfully for Fulbright and other prestigious scholarships, and are highly qualified to pursue careers in humanities, social sciences, as well as artistic and professional careers.

Students work with faculty in Germanic languages, Jewish studies, history, and Slavic studies to broaden their understanding of the literature, language, and culture of Eastern European Jewry. The Yiddish Studies Program is also closely affiliated with the [Institute for Israel and Jewish Studies](#), which offers diverse programming and other

fellowship opportunities. Classes are small, and instruction is individualized and carefully directed to ensure that students gain both a thorough general grounding and are able to pursue their own particular interests in a wide-spanning field. The program also offers classes taught in translation for students who do not study Yiddish. The Yiddish programming, such as lectures, monthly conversation hours, Meet a Yiddish Celebrity series, as well as the activities of the Yiddish Club of Columbia's Barnard/Hillel allows students to explore Yiddish culture outside the classroom.

## The German Language Placement Exam

The German Language Placement Exam is offered every semester to students who already speak the language in order to determine their language level (Elementary, Intermediate, Advanced) and the right level language course. Visit our [website for details](#).

## The German Language Program

First- and second-year German language courses emphasize spoken and written communication, and provide a basic introduction to German culture. Goals include mastery of the structure of the language and enough cultural understanding to interact comfortably with native speakers.

After successfully completing the elementary German sequence, [GERM UN1101](#) ELEMENTARY GERMAN I-[GERM UN1102](#), students are able to provide information about themselves, their interests, and daily activities. They can participate in simple conversations, read edited texts, and understand the main ideas of authentic texts. By the end of [GERM UN1102](#), students are able to write descriptions, comparisons, and creative stories, and to discuss general information about the German-speaking countries.

The intermediate German sequence, [GERM UN2101](#) INTERMEDIATE GERMAN I-[GERM UN2102](#) INTERMEDIATE GERMAN II, increases the emphasis on reading and written communication skills, expands grammatical mastery, and focuses on German culture and literary texts. Students read short stories, a German drama, and increasingly complex texts. Regular exposure to video, recordings, the World Wide Web, and art exhibits heightens the cultural dimensions of the third and fourth semesters. Students create portfolios comprised of written and spoken work.

Upon completion of the second-year sequence, students are prepared to enter advanced courses in German language, culture, and literature at Columbia and/or at the Berlin Consortium for German Studies in Berlin. Advanced-level courses focus on more sophisticated use of the language structure and composition ([GERM UN3001](#) ADVANCED GERMAN I-[GERM UN3002](#) ADVANCED GERMAN II); on specific cultural areas; and on literary, historical, and

philosophical areas in literature-oriented courses ([GERM UN3333](#) INTRO TO GERMAN LIT (GERMAN)).

## In Fulfillment of the Language Requirement in German

Students beginning the study of German at Columbia must take four terms of the following two-year sequence:

GERM UN1101	ELEMENTARY GERMAN I
GERM UN1102	ELEMENTARY GERMAN II
GERM UN2101	INTERMEDIATE GERMAN I
GERM UN2102	INTERMEDIATE GERMAN II

Entering students are placed, or exempted, on the basis of their College Board Achievement or Advanced Placement scores, or their scores on the placement test administered by the departmental language director. Students who need to take [GERM UN1101](#) ELEMENTARY GERMAN I-[GERM UN1102](#) ELEMENTARY GERMAN II may take [GERM UN1125](#) Accelerated Elementary German I & II as preparation for [GERM UN2101](#) INTERMEDIATE GERMAN I.

## STUDENT ADVISING

### Consulting Advisers

**Director of Undergraduate Studies:** Professor Annie Pfeifer, 409 Hamilton Hall, [ap750@columbia.edu](mailto:ap750@columbia.edu), 212-854-8986

**Director of the German Language Program:** Jutta Schmiere-Heller, [js2331@columbia.edu](mailto:js2331@columbia.edu), 212-854-5381

**Director of the Yiddish Studies Program:** Professor Jeremy Dauber, [jad213@columbia.edu](mailto:jad213@columbia.edu)

**Director of the Yiddish Language Program:** Agnieszka Legutko, [abl209@columbia.edu](mailto:abl209@columbia.edu), 212-854-3202

Students can contact the DUS with advising questions. The Department of Germanic Languages is represented at the Academic Resources Fair prior to the beginning of the fall semester and hosts fall and spring open houses for interested students.

## Enrolling in Classes

The German Language Placement Exam is offered throughout the year to students who already speak the language in order to determine their language level (Elementary, Intermediate, Advanced) and the right level language course. Visit our [website for details](#).

## Preparing for Graduate Study

Upon graduation, German majors compete successfully for Fulbright or DAAD scholarships for research in Germany or Austria beyond the B.A. degree. Graduating seniors are highly qualified to pursue graduate studies in the humanities and social sciences, as well as professional careers. Former majors and minors have gone on to pursue graduate degrees



in law, journalism, banking and consulting, international affairs, education, and communications.

In addition to applying for Fulbright or DAAD scholarships, students considering graduate work may also wish to write a senior thesis or develop an independent research project with a faculty mentor.

Students interested in pursuing a PhD or MA in the field of Germanic Languages should therefore speak with the Director of Undergraduate Studies and other faculty members no later than the beginning of the fall semester before applying (i.e., typically the fall of the senior year).

## COURSEWORK TAKEN OUTSIDE OF COLUMBIA

Coursework in fulfillment of a major or minor [or special program or concentration] must be taken at Columbia University unless explicitly noted here and/or expressly permitted by the Director of Undergraduate Studies of the program. Exceptions or substitutions permitted by the Director of Undergraduate Studies should be confirmed in writing by email to the student.

### Advanced Placement

The department grants 3 credits for a score of 5 on the AP German Language exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion of a 3000-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in German. Courses taught in English may not be used for language AP credit. The department grants 0 credits for a score of 4 on the AP German Language exam, but the foreign language requirement is satisfied.

### Barnard College Courses

The German programs at Columbia and Barnard work together closely. Students may take courses at Barnard to count towards the Major or Minor with the approval of the DUS. Students at Barnard should speak to their advisor at Barnard regarding Columbia courses as the departments are distinct and the requirements for their respective majors are different.

### Transfer Courses

When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit (e.g., to confirm that the courses will count toward the 124 points of credit that every student is required to complete for the B.A. degree). Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major or minor [or special program or concentration].

## Study Abroad Courses

Classes taken abroad through Columbia-led programs (i.e., those administered by Columbia's Center for Undergraduate Global Engagement and taught by Columbia instructors) are treated as Columbia courses, equivalent to those taken on the Morningside Heights campus. If they are not explicitly listed by the department as fulfilling requirements in the major or minor [or special program or concentration], the DUS will need to confirm that they can be used toward requirements in the major/minor.

Classes taken abroad through other institutions and programs are treated as transfer credit to Columbia, and are subject to the same policies as other transfer courses. There will be a limit on the number of courses taken abroad that can be applied to the major/minor, and they must be approved by the DUS."

### FUBiS Summer Language Program in Berlin

The department offers a language-intensive German program over the summer at the Freie Universität Berlin (FUBiS). Financial support is provided primarily by the Germanistic Society of America and the Max Kade Foundation, with some help from Barnard College, Columbia College, General Studies, Columbia Engineering, and the Department of Germanic Languages.

The FUBiS scholarship is for students who have completed at least two semesters or equivalent of German language instruction in our German language program by May of the year they are applying. Scholarships are awarded based on academic achievement and German language aptitude. Each scholarship includes a travel grant, tuition for a six-week/one month-long German language course, and lodging at the summer program of the FU University. For additional information on FUBIS, please contact our department and visit <https://www.fubis.org>.

### Berlin Consortium for German Studies

The Berlin Consortium for German Studies (BCGS) provides students with a study abroad program, administered by Columbia University, which includes students from other consortium member schools (Princeton, Yale, University of Pennsylvania, Johns Hopkins, and the University of Chicago). You can study a semester or a full academic year. We have the original immersion program (4 semesters + of German required) and a program for students with less German. Please visit the Global Engagement page and click on the tab "Calendars and Pathways" to see all the options available to you: <https://global.undergrad.columbia.edu/program/bcgs>

For additional information on the Berlin Consortium, see the [Study Abroad—Sponsored Programs](#) section in this Bulletin, visit the [Center for Undergraduate Global Engagement](#),



or consult the program's office at [uge@columbia.edu](mailto:uge@columbia.edu) ([iuge@columbia.edu](mailto:iuge@columbia.edu)).

## Summer Courses

Summer courses at Columbia are offered through the School of Professional Studies.

Courses taken in a Summer Term may be used toward requirements for the major/minor only as articulated in department/institute/center guidelines or by permission of the Director(s) of Undergraduate Studies. More general policies about Summer coursework can be found in the Academic Regulations section of this Bulletin.

## CORE CURRICULUM CONNECTIONS

Faculty and graduate instructors from the Department of Germanic Languages regularly teach in the Core, usually Literature Humanities and Contemporary Civilization.

The Department of Germanic Languages also offers several courses that build on the coursework in Contemporary Civilization including “Marx, Nietzsche, Freud” (GERM4670GU) and “Aesthetic Theory - Frankfurt School” (CLGR 4210GU) and “Aesthetics and Philosophy of History” (CLGR4250GU).

## UNDERGRADUATE RESEARCH AND SENIOR THESIS

### Undergraduate Research in Courses

Beyond the wide-ranging language instruction, the department offers courses that teach students critical theory and interdisciplinary thinking that are applicable to many areas of knowledge. Courses like “Literary Theory: Nietzsche-Agamben” (CLGR4130GU) introduce students to theoretical and interdisciplinary methods. “Advanced Topics” (UN3991) introduces students to contemporary topics and scholarly debates and is based on current research interests of faculty members. Students are also given an opportunity to develop an independent research project.

Students should consult with the Director of Undergraduate Studies. Students can register for Directed Readings with a faculty member.

### Senior Thesis Coursework and Requirements

A senior thesis is not required for the major. Students interested in a senior thesis or research project may do so through independent study with a faculty member over one or two semesters. Students should approach a faculty member at the end of their junior or beginning of their senior year.

## Undergraduate Research Outside of Courses

## DEPARTMENT HONORS AND PRIZES

### Department Honors

Normally no more than 10% of graduating majors receive departmental honors in a given academic year. For the requirements for departmental honors, see the DUS.

### Academic Prizes

All prize recipients are announced at the end of the spring semester of each academic year.

The German Academic Achievement Award is awarded to the top students in German language classes. The award is made by the department together with the support of the Consulate General of the Federal Republic of Germany. The prize consists of a certificate provided by the Consulate and a small gift provided by the department.

The Deutscher Verein Prize is a cash prize given annually to a single Columbia College junior or senior who submits the best essay on a prescribed topic in German Literature or culture. Essays can be in English or in German.

The Deutsches Haus Prize for Distinguished Undergraduate Achievement is given to a graduating German major or minor who has demonstrated excellence and promise in the field of German Studies.

## OTHER IMPORTANT INFORMATION

### Deutsches Haus

Deutsches Haus, 420 West 116th Street, provides a center for German cultural activities on the Columbia campus. It sponsors lectures, film series, and informal gatherings that enrich the academic programs of the department. Frequent events throughout the fall and spring terms offer students opportunities to engage with current issues in the field and practice their language skills. Twice a month during the semester, the department offers “Kaffeestunde,” an open German conversation hour for speakers at all proficiency levels. The department also holds monthly Dutch and Yiddish Conversation hours.

### Grading

Courses in which a grade of D has been received do not count toward the major or concentration requirements.

## PROFESSORS

Mark Anderson  
 Stefan Andriopoulos  
 Claudia Breger (Chair)  
 Jeremy Dauber  
 Andreas Huyssen (emeritus)  
 Harro Müller (emeritus)  
 Dorothea von Mücke  
 Annie Pfeifer  
 Oliver Simons

## VISITING PROFESSORS SPRING 2025:

Maha El Hissy (Visiting Max Kade Professor)

Lieke van Deinsen (Queen Wilhelmina Visiting Assistant Professor)

## SENIOR LECTURERS

Wijnne de Groot (Dutch)  
 Agnieszka Legutko (Yiddish)  
 Jutta Schmiere-Heller (German)

## LECTURERS

Xuxu Song (German)  
 Simona Vaidean (German)

## GUIDANCE FOR UNDERGRADUATE STUDENTS IN THE DEPARTMENT

### Program Planning for all Students

Students who entered Columbia (as first-year students or as transfer students) in or after Fall 2024 may select from a curriculum of majors and minors. The requirements for the Bachelor of Arts degree, and role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Students who entered Columbia in or before the 2023-2024 academic year may select from a curriculum of majors and minors and concentrations. The requirements for the Bachelor of Arts degree, and the role of majors and minors in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

### Course Numbering Structure

The 1000 and 2000-level courses are typically language classes including Elementary, Intermediate, and

Conversation. At the 3000/4000-level, courses are either advanced language classes and literature/culture classes. While many 3000/4000 courses are taught in English, others are taught in the target language and have language prerequisites or requirements.

### Guidance for First-Year Students

Students who have had prior German instruction are required to take the placement test, which is offered every semester. Students may enroll in 3000 and 4000 level literature and culture courses taught in English before or without completing the language requirements.

### Guidance for Transfer Students

When students transfer to Columbia from other institutions, their coursework at their previous institution must first be considered by their school in order to be evaluated for degree credit. Only after that degree credit is confirmed, departments may consider whether those courses can also be used to fulfill specific degree requirements toward a major or minor [or special program or concentration].

## UNDERGRADUATE PROGRAMS OF STUDY

### Major in German Literature and Cultural History

The goal of the major is to provide students with reasonable proficiency in reading a variety of literary, philosophical, and historical texts in the original and, through this training, to facilitate a critical understanding of modern German-speaking cultures and societies. Students should plan their program of study with the director of undergraduate studies as early as possible. Competence in a second foreign language is strongly recommended, especially for those students planning to attend graduate school.

The major in German literature and cultural history requires a minimum of 30 points, distributed as follows:

GERM UN2102	INTERMEDIATE GERMAN II
GERM UN3001	ADVANCED GERMAN I (can be waived and replaced by another 3000 level class upon consultation with the DUS)
or GERM UN3002	ADVANCED GERMAN II
GERM UN3333	INTRO TO GERMAN LIT (GERMAN)

Select two of the following survey courses in German literature and culture (at least one of these must focus on pre-20th-century cultural history):

GERM UN3442	Literature in the 18th and 19th Centuries
GERM UN3443	SURVEY OF GERMAN LIT:19C (GER)

GERM UN3444	SURVEY OF GERMAN LIT:20C (GER)
GERM UN3445	German Literature After 1945 [In German]
One course in German intellectual history	
GERM UN3991	Advanced Topics in German Literature
The remaining courses to be chosen from the 3000- or 4000-level offerings in German and Comparative Literature–German in consultation with the Director of Undergraduate Studies.	

Intermediate German II (GERM UN 2102) can be counted toward the required 30 points, but the total of points from language courses should not be higher than six points.

### Senior Thesis

A senior thesis is not required for the major. Students interested in a senior thesis or research project may do so through independent study with a faculty member over one or two semesters.

## Major in Yiddish Studies

The program is designed as a combination of language and content courses. First- and second-year Yiddish language courses emphasize spoken and written communication, and provide a basic introduction to Eastern European Jewish culture. Goals include mastery of the structure of the language and enough cultural understanding to interact comfortably with native speakers.

After second-year Yiddish language courses are completed, students should feel sufficiently comfortable to begin to work with Yiddish literature in the original. Upper-level undergraduate/graduate courses are designed to accommodate students with a range of Yiddish language experience, and intensive language summer study abroad, such as the Naomi Prawer Kadar International Yiddish Summer Program (the Yiddish Studies program at Columbia offers the fully-subsidized Naomi Fellowship for students of Yiddish), or other academic summer programs, is also encouraged for improvement in language acquisition and comprehension.

The goal is to provide students with reasonable proficiency in reading a variety of literary, philosophical, and historical texts in the original and, through this training, to provide them with a critical understanding of Yiddish-speaking culture and society.

The second pillar of the Yiddish program is an intimate exposure to the literature and culture of the Yiddish-speaking Jewry. That exposure is achieved through several courses in Yiddish literature, which, although they may cover a variety of subjects or proceed from a number of methodological

and disciplinary orientations, share a rigorous commitment to analyzing and experiencing that literature within an overarching historical and cultural framework.

These courses in Yiddish literature, culture and Jewish history will provide students with a solid interdisciplinary foundation in Yiddish studies. Inevitably and necessary, these courses, whether taught in Yiddish, English, or in a combination of the Yiddish text and English language instruction – cover the sweep of Yiddish literary history from the early modern period to today.

Students should plan their program of study with the director of undergraduate studies as early as possible. There is a prerequisite of two years of Yiddish, or equivalent to be demonstrated through testing.

The Major in Yiddish Studies requires a minimum of 30 points, distributed as follows:

1. **Two courses of advanced language study** (6 points); YIDD UN3101, YIDD UN3102
2. **Three courses in Yiddish literature** (9 points); e.g. YIDD UN3500, YIDD GU4420
3. **At least one course related to a senior thesis** (3 points);
4. **Four related courses, at least one of which is in medieval or modern Jewish history** (12 points); e.g. HIST UN4604, YIDD GU4113.

A senior thesis **is required** for the Major in Yiddish Studies. Students interested in a senior thesis or research project may do so through independent study with a faculty member over one or two semesters. Students must conduct original research, some of which must take place in the Yiddish language, and are required to submit a culminating paper, of no less than 35 pages.

Elective courses:

Elective courses can be taken at Columbia as well as at affiliated institutions such as the Jewish Theological Seminary, Barnard College, New York University, etc. Columbia's arrangements with the joint degree appointing program at JTS, i.e. JTS and GS Joint program with List College, offers students exposure to a wide variety of courses on Yiddish and Yiddish-related topics taught by experts in the field of Yiddish and comparative Jewish literature.

Thanks to the consortial arrangements with other universities in the New York area (Barnard, NYU, Yale, Penn, etc.) students both in Columbia College and General Studies, can take courses at these institutions for degree credit, which allows for student exposure to experts in twentieth-century Soviet Yiddish literature, Yiddish women's writing, Yiddish literature in Israel, and much more (Profs. Gennady Estraiikh, Kathryn Hellerstein, and Hannan Hever). These arrangements allow students to have, if they so choose, an even broader intellectual experience than the already broad interdisciplinary opportunities available to them via

the courses offered by the faculty on the Interdisciplinary Committee on Yiddish at Columbia.

Language courses need to be taken at Columbia.

Honors options:

Departmental Honors in Yiddish Studies can be granted to a total of 10% of the students graduating with the Major in Yiddish Studies in a given year across both Columbia College and General Studies.

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## Minor in German

**The total number of courses required for the minor is 5 courses (= minimum of 15 points).**

Pre-requisites:

The minor requires at least 4 semesters of German language (= through Intermediate II), or equivalent proficiency determined by placement test. However, students can count the second semester of intermediate German (GERM UN2102) towards their five courses and begin other coursework (in translation) before completing the four semesters of language.

Language/Literature and Culture distribution:

A maximum of 6 points can be fulfilled with upper-level language courses (Intermediate II and/or Advanced). The remaining credits (= at least three courses) need to be 3000/4000-level literature/culture courses.

### Required Course:

#### **GERM UN3333 (Introduction to German Literature)**

Course Description: Prerequisites: GERM UN2102 or the equivalent. Examines short literary texts and various methodological approaches to interpreting such texts in order to establish a basic familiarity with the study of German literature and culture.

### Recommended Electives:

1. One of the period survey courses in German literature and culture
  - a. GERM UN3442 Survey of German Literature: 18th-Century
  - b. GERM UN3443 Survey of German Literature: 19th-Century
  - c. GERM UN3444: Survey of German Literature: 20th-Century
2. GERM UN3991: Advanced Topics in German Literature

### Other electives:

The remaining courses can be chosen, in consultation with the Director of Undergraduate Studies, from the department's other 3000- or 4000-level offerings in German and Comparative Literature-German (taught in German or English).

### Sequencing:

## Minor in German Thought and Critical Theory

The minor enables students to gain a deeper knowledge of a critical intellectual and philosophical tradition, which was first established by Kant and then adapted by Marx, Nietzsche, Freud, Arendt, and the Frankfurt School. In addition to historicizing the contexts that allowed for the emergence of this mode of critical thinking, the minor also trains students to extend this critical awareness to new but equally contingent circumstances that we encounter in our global presents and futures. The minor draws on and strengthens crucial core competencies of a Columbia undergraduate education, especially critical thinking, written communication, global awareness, oral communication, and research. Students expand their knowledge of critical arguments by Kant, Marx, Nietzsche, and Arendt whose texts they also read as part of Contemporary Civilization. Offered in cooperation with the Philosophy Departments at Barnard and Columbia, this interdisciplinary minor allows students to explore various dimensions of critical theory including literary theory, continental philosophy, aesthetics, and political theory.

The total number of courses required for the minor is 5 courses (minimum of 15 points). Prerequisites: None. The second semester of Contemporary Civilization is recommended but not required. There is no German language requirement as part of the minor. Classes will be taught in English.

Requirements: Students have to take two of the following three courses:

### **1. CLGR4210GU: Aesthetic Theory - Frankfurt School**

Critical theory was the central practice of the Frankfurt School. Founded in Frankfurt in 1923 and later based at Columbia University, this interdisciplinary institute influenced fields like sociology, political science, film, cultural studies, media theory, and comparative literature. The course begins by examining the genealogy of the Frankfurt School in Marxism and its critique of fascism and traces its afterlife in aesthetic theory, deconstruction, and gender studies, as well as the specter of "Cultural Marxism" recently floating around right-wing circles. We read texts by key figures of the Frankfurt School such as Theodor W. Adorno, Max Horkheimer, Herbert Marcuse and Jürgen



Habermas as well as works by adjacent figures like Walter Benjamin, Hannah Arendt, and Siegfried Kracauer.

## 2. GERM4670GU: Marx, Nietzsche, Freud

Along with Darwin, Marx, Nietzsche and Freud have radically altered what and how we know; about humans, language, history, religion, things and life. Because their thought has shaped our sense of ourselves so fundamentally, Michel Foucault has referred to these three authors as discourse-founders. As such they will be treated in this class. Special attention will be paid to the affinities and competition among their approaches. Secondary sources will be subject to short presentations (in English) of those students capable of reading German.

## 3. CLGR4250GU: Aesthetics and Philosophy of History (in English)

This course offers an introduction to German intellectual history by focusing on the key texts from the 18th and 19th century concerned with the philosophy of art and the philosophy of history. Instead of providing a general survey, this thematic focus that isolates the relatively new philosophical subspecialties allows for a careful tracing of a number of key problematics. The texts chosen for discussion in many cases are engaged in lively exchanges and controversies. Readings are apportioned such that students can be expected to fully familiarize themselves with the arguments of these texts and inhabit them.

Electives: In addition, students take elective courses to be chosen from the following list of classes. They can also petition for other elective courses to count toward the minor, dependent on approval by the DUS of German.

Approved electives:

PHIL UN 2301 History of Philosophy: Kant-Nietzsche

PHIL UN 3251 Kant

PHIL UN 3264 19th Century Philosophy: Hegel

PHIL UN 3351 Phenomenology & Existentialism

CLGR GU4215 Spirit and Ghosts from Kant to Marx

CLGR GU 4420 Walter Benjamin

CLGR GU 4130 Literary Theory: Nietzsche-Agamben

CLGR GU 4251 Kant with Arendt (NEW COURSE  
PENDING APPROVAL)

## Minor in Yiddish Studies

### 3 Separate Minor Tracks Available:

The Yiddish minor is designed as a combination of five courses with three separate tracks:

5 courses (= minimum of 15 points)

1) Minor in Yiddish Language: 5 language courses;

2) Minor in Yiddish Language and Literature: a combination of language and content courses;

3) Minor in Yiddish Culture: 5 content courses.

### Requirements:

#### 1. Courses required for Minor in Yiddish Language:

##### *Requirement: Five Language Courses*

YIDD 1101 UN Elementary Yiddish I 4 points

YIDD 1102 UN Elementary Yiddish II 4 points

This year-long course offers an introduction to the language that has been spoken by the Ashkenazi Jews for more than a millennium, and an opportunity to discover a fabulous world of Yiddish literature, language and culture in a fun way. Using games, new media, and music, we will learn how to speak, read, listen and write in a language that is considered one of the richest languages in the world (in some aspects of vocabulary). We will also venture outside the classroom to explore the Yiddish world today: through field trips to Yiddish theater, Yiddish-speaking neighborhoods, Yiddish organizations, such as YIVO or Yiddish farm, and so on. We will also have Yiddish-speaking guests and do a few digital projects. At the end of the two-semester course, you will be able to converse in Yiddish on a variety of everyday topics and read most Yiddish literary and non-literary texts. Welcome to Yiddishland!

YIDD 2101 UN Intermediate Yiddish I 4 points

YIDD 2102 UN Intermediate Yiddish II 4 points

Prerequisites: YIDD UN1101-UN1102 or the instructor's permission.

Prerequisites: YIDD UN1101-UN1102 or the instructor's permission.

This year-long course is a continuation of Elementary Yiddish II. As part of the New Media in Jewish Studies Collaborative, this class will be using new media in order to explore and research the fabulous world of Yiddish literature, language, and culture, and to engage in project-oriented activities that will result in creating lasting multi-media online presentations. In addition to expanding the command of the language that has been spoken by the Ashkenazi Jews for more than a millennium, i.e. focusing on developing speaking, reading, writing and listening skills, and on the acquisition of more advanced grammatical concepts, students will also get some video and film editing training, and tutorials on archival research. The class will continue to read works of Yiddish literature in the original and will venture outside of the classroom to explore the Yiddish world today: through exciting field trips to Yiddish theater, Yiddish-



speaking neighborhoods, YIVO, Yiddish Farm, and so on. And we will also have the Yiddish native-speaker guest series. Welcome back to Yiddishland!

YIDD 3101 UN Advanced Yiddish 3 points

This course focuses predominantly on developing reading comprehension skills, as well as on listening, writing, speaking, and some more advanced grammar. It explores literary and scholarly texts examining the modern Jewish experience in the context of the twentieth-century history and culture of the Ashkenazi Jews. Supplementary texts will be selected based on students' interests and may include historical pedagogical materials, past and present newspaper articles, polemic, poetry, historical and scholarly articles. We will also venture outside the classroom to explore the Yiddish world today: through field trips to Yiddish theater, Yiddish-speaking neighborhoods, Yiddish organizations, such as YIVO, and so on. We will apply our reading and translating skills to contribute to the Mapping Yiddish New York online project, and will also have Yiddish-speaking guests. At the end of the semester, you will be able to converse in Yiddish on a variety of everyday topics and read authentic Yiddish literary and non-literary texts. Welcome back to Yiddishland!

Please note: Study abroad courses (such as the Naomi Fellowship run by Yiddish Studies Program) can count towards the minor fulfilment as well.

## **2. Courses required for Minor in Yiddish Language and Literature**

***Requirement: Combination of language and content courses: at least 15 points (see below).***

- 2 language courses at Elementary and/or Intermediate levels (listed above), and 3 elective content courses (listed below), at least two of which are literature courses: at least 17 points.

OR

- 1 language course at Advanced level (listed above) and 4 elective content courses (listed below), at least two of which are literature courses: at least 15 points.

## **3. Courses required for the Minor in Yiddish Culture**

***Requirement: Five elective content courses: at least 15 points.***

Selected from the list below, with at least three of being literature courses: at least 15 points.

The courses in Yiddish literature, culture and Jewish history, whether taught in Yiddish, English, or a combination of the English and Yiddish texts and English language instruction will expose students to modern global Yiddish/Jewish

cultures from a number of methodological and disciplinary perspectives.

Please see chart below for recommended elective content courses for:

2) Minor in Yiddish Language and Literature

3) Minor in Yiddish Culture\*

1. YIDD UN3500: Survey of Yiddish Literature
2. CLYD UN3500: Readings in Yiddish Literature
3. YIDD GU4420: Gender & Sexuality in Yiddish Literature
4. CLYD UN4200 : American Jewish Literature: Survey
5. CLYD GU4250: Memory and Trauma in Yiddish Literature
6. YIDD UN3520: Magic & Monsters in Yiddish Literature
7. HIST UN3657: Medieval Jewish Cultures
8. HIST UN3644: Modern Jewish Intellectual History
9. HIST UN3630: American Jewish History
10. HIST UN4604: Jews and the City

\*The above list is “recommended” and not “required” since there are only two full-time Yiddish faculty members at the Department of Germanic Languages, and the courses are offered in rotation. This option also allows students to choose courses aligned with their interests and research needs. All the literature courses are taught by the Yiddish faculty at the Department of Germanic Languages, other courses are taught by faculty in History, Slavic, and Religion Departments.

The Yiddish minor requirement can be fulfilled by choosing from the list of approved courses (listed here and on the departmental website) in consultation with a Yiddish Advisor – either Director of Undergraduate Studies (DUS) or the Director of the Yiddish Language Program (DLP), preferably during the first two years of undergraduate studies. All courses have to be approved in advance by the Yiddish Advisor, who will make sure student minor design (particularly in case of Minor in Yiddish Language and Literature and Minor in Yiddish Culture) offers a solid foundation in Yiddish language, literature, and culture.

The Yiddish Advisor is in contact with the faculty outside of the Germanic Languages Department in order to consult, collaborate, and monitor the student progress towards the minor, the same model being applied in regard to the Yiddish Major. Many of the Columbia faculty teaching Jewish studies content courses are also affiliated with the Institute for Israel and Jewish Studies, which not only provides students and other departments with information about Jewish/Yiddish studies courses offered across the university on a regular basis, but it also facilitates networking and collaborations between the faculty.

**List of all elective content courses for the Yiddish Minor:**

YIDD GU4101 INTRODUCTION TO YIDDISH STUDIES

YIDD UN3500 SURVEY OF YIDDISH LIT

CLYD UN4200 AMER JEWISH LIT: SURVEY

CLYD UN3600 HOLOCAUST LITERATURE: SURVEY

YIDD GU4550 YIDD THEATER: TEXT &  
PERFORMANCE

YIDD UN4401 MODERN YIDDISH POETRY

YIDD GU4200 THE FAMILY SINGER

YIDD GU4675 LIFE WRITING IN YIDD LIT

YIDD GU4420 GENDER &amp; SEXUALITY IN YIDD LIT

CLYD GU4460 HORROR STORY: JEWS &amp; OTHERS

YIDD UN3520 MAGIC &amp; MONSTERS IN YIDD LIT

CLYD UN3500 READINGS IN YIDD LIT

YIDD UN3800 READINGS IN YIDD LIT

YIDD UN3360 MODERN YIDDISH LIT &amp; CULTURE

WMST GU4310 CONT AMER JEWISH WOMEN'S LIT  
1990 TO PRESENTCLYD GU4250 MEMORY AND TRAUMA IN YIDDISH  
LITYIDD GU4995 EXPLORING YIDDISHLAND: CULTURE,  
TIME, SPACE

YIDD GU4113 YIDDISH FOR ACADEMIC PURPOSES

YIDD GU4114 YIDDISH FOR ACADEMIC PURPOSES II

HIST UN2611 JEWS AND JUDAISM IN ANTIQUITY

HIST UN3603 INTRL & GLOBAL HISTORY OF JEWISH  
MIGRATIONHIST UN3645 SPINOZA TO SABBATAI: JEWS IN  
EARLY MODERN EUROPE

HIST UN3657 MEDIEVAL JEWISH CULTURES

HIST UN3644 MODERN JEWISH INTELLECTUAL  
HISTORY

HIST UN3630 AMERICAN JEWISH HISTORY

HIST UN4281 CULTURE IN POLISH LANDS

HIST UN4641 HOLOCAUST & GENOCIDE IN  
AMERICAN CULTUREHIST UN4610 ANCIENT JEWS AND THE  
MEDITERRANEAN

HIST UN4604 JEWS AND THE CITY

RELI UN4513 HOMELANDS, DIASPORAS, PROMISED  
LANDSRELI UN4505 THE BEGINNINGS OF JEWISH  
MYSTICISM

MUSI UN2030 JEWISH MUSIC OF NEW YORK

RELI UN2306 INTRO TO JUDAISM

RELI GU4509 CRIME AND PUNISHMENT IN JEWISH  
CULTURERELI UN3571 JUDAISM, JEWISHNESS, AND  
MODERNITYRELI GU4524 THEORIES OF THE UNCONSCIOUS AND  
JEWISH THOUGHTRELI GU4522 PRODUCTION OF JEWISH DIFFERENCE  
FROM ANTIQUITY TO PRESENT

RELI GU4308 JEWISH PHILOSOPHY AND KABBALAH

RELI GU4637 TALMUDIC NARRATIVE

WMST GU4301 EARLY JEWISH WOMEN IMMIGRANT  
WRITERSWMST GU4302 THE SECOND WAVE AND JEWISH  
WOMEN'S ARTISTIC RESPONSES 1939-1990\*Since the above list of elective courses is so expansive, the  
additional course descriptions can be provided upon request.**FOR STUDENTS WHO ENTERED  
COLUMBIA IN OR BEFORE THE  
2023-24 ACADEMIC YEAR**

Concentrations are available to students who entered Columbia in or before the 2023-2024 academic year. The requirements for the Bachelor of Arts degree, and the role of the concentration in those requirements, can be found in the Academic Requirements section of the Bulletin dated the academic year when the student matriculated at Columbia and the Bulletin dated the academic year when the student was a sophomore and declared programs of study.

Concentrations are not available to students who entered Columbia in or after Fall 2024.

**Concentration in German Literature and  
Cultural History**

The concentration in German literature and cultural history requires a minimum of 21 points in German courses.

GERM UN3333      INTRO TO GERMAN LIT  
(GERMAN)

At least one of the period survey courses in German literature and culture

GERM UN3442      Literature in the 18th and 19th Centuries

GERM UN3443      SURVEY OF GERMAN LIT:19C (GER)

GERM UN3444      SURVEY OF GERMAN LIT:20C (GER)

GERM UN3445      German Literature After 1945 [In German]

GERM UN3991      Advanced Topics in German Literature

The remaining courses to be chosen from the 3000- or 4000-level offerings in German and Comparative Literature in consultation with the Director of Undergraduate Studies

Two courses to be chosen from the 3000- or 4000-level (taught in German or English) offerings in German and Comparative Literature German in consultation with the Director of Undergraduate Studies

## Concentration in Yiddish Studies

The concentration in Yiddish studies requires a minimum of 21 points, distributed as follows:

1. **Two courses of advanced language study** (6 points); YIDD UN3101, YIDD UN3102
2. **Two courses in Yiddish literature** (6 points); e.g. YIDD UN3500, YIDD GU4420
3. **Three related courses, at least one of which is in medieval or modern Jewish history** (9 points); e.g. HIST UN4604, YIDD GU4113.

## Special Concentration in German for Columbia College and School of General Studies Students in STEM fields

The special concentration in German requires a minimum of 15 points.

GERM UN3333      INTRO TO GERMAN LIT  
(GERMAN)

At least one of the period survey courses in German Literature and Culture

GERM UN3442      Literature in the 18th and 19th Centuries

GERM UN3443      SURVEY OF GERMAN LIT:19C (GER)

GERM UN3444      SURVEY OF GERMAN LIT:20C (GER)

GERM UN3445      German Literature After 1945 [In German]

GERM UN3991      Advanced Topics in German Literature

# POSTBACCALAUREATE PREMEDICAL PROGRAM CURRICULUM AND COURSES

The academic curriculum of the Postbaccalaureate Premedical Program is designed to fulfill the prerequisites for medical school admission. Because course requirements for medical school vary, our premedical curriculum is designed to prepare Postbac Premed students to train anywhere in the nation. For the sequencing of the following required courses, please review the program timetables: traditional, part-time, accelerated, or 12-month. While enrolled in the program, students must fulfill all requirements with courses offered by Columbia's Faculty of Arts & Sciences. It is possible to complete some requirements with Barnard College course offerings, but students considering this option should discuss it with their advisors and understand the implications of this choice (see below under Biology and Organic Chemistry). All students are expected to have their advisors approve their programs of study. In addition to the following courses, students must gain at least 120 hours of health care experience.

## ENGLISH

One year of college English or the equivalent is required. Most Postbac Premed students have completed this requirement as undergraduates and do not need to complete coursework in English at Columbia. Students should inform their advisors early on when they are especially interested in particular medical school programs (linkage or non-linkage), since some may have specific requirements for this subject of study.

## MATHEMATICS

Students are required to complete one year (6 points) of college mathematics beyond pre-calculus, consisting of one term of calculus and one term of statistics. (Some students elect to take a second semester of calculus instead of statistics.)

Calculus I may be taken as a co-requisite of Physics I or General Chemistry I.

### Courses

#### **MATH UN1101 CALCULUS I. 3.00 points.**

Prerequisites: see Courses for First-Year Students. Functions, limits, derivatives, introduction to integrals.

Prerequisites: (see Courses for First-Year Students).

Functions, limits, derivatives, introduction to integrals, or an understanding of pre-calculus will be assumed. (SC)

#### **Fall 2024: MATH UN1101**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
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MATH 1101	001/00081	T Th 1:10pm - 2:25pm 263 Macy Hall	Lindsay Piechnik	3.00	97/100
MATH 1101	002/00082	Th 2:40pm - 3:55pm 405 Milbank Hall	Lindsay Piechnik	3.00	98/100
MATH 1101	003/11833	M W 10:10am - 11:25am 203 Mathematics Building	Marco Castronovo	3.00	48/100
MATH 1101	004/11835	M W 11:40am - 12:55pm 203 Mathematics Building	Marco Castronovo	3.00	64/100
MATH 1101	005/11837	M W 2:40pm - 3:55pm 312 Mathematics Building	George Dragomir	3.00	92/106
MATH 1101	006/11838	M W 4:10pm - 5:25pm 703 Hamilton Hall	Alex Scheffelin	3.00	29/30
MATH 1101	007/11840	M W 6:10pm - 7:25pm 207 Mathematics Building	Marco Sangiovanni Vincentelli	3.00	19/100
MATH 1101	008/11841	T Th 10:10am - 11:25am 520 Mathematics Building	Soren Galatius	3.00	42/45
MATH 1101	009/11842	T Th 11:40am - 12:55pm 142 Uris Hall	George Dragomir	3.00	106/108
MATH 1101	010/11844	T Th 4:10pm - 5:25pm 142 Uris Hall	Marco Sangiovanni Vincentelli	3.00	23/100
MATH 1101	011/11845	T Th 6:10pm - 7:25pm 407 Mathematics Building	Matthew Hase-Liu	3.00	31/30
MATH 1101	012/00857	M W 1:10pm - 2:25pm 152 Horace Mann Hall	Wenjian Liu	3.00	37/60

#### **Spring 2025: MATH UN1101**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
MATH 1101	001/00472	M W 1:10pm - 2:25pm 263 Macy Hall	Dusa McDuff	3.00	62/90
MATH 1101	002/15277	M W 4:10pm - 5:25pm 407 Mathematics Building	Qiyao Yu	3.00	23/30
MATH 1101	003/15278	M W 6:10pm - 7:25pm 312 Mathematics Building	Brian Harvie	3.00	102/100
MATH 1101	004/15280	T Th 10:10am - 11:25am 614 Schermerhorn Hall	Roger Van Peski	3.00	24/100
MATH 1101	005/15281	T Th 1:10pm - 2:25pm 207 Mathematics Building	Roger Van Peski	3.00	22/100
MATH 1101	006/15282	T Th 4:10pm - 5:25pm	Che Shen	3.00	20/30

407 Mathematics  
Building

### **MATH UN1102 CALCULUS II. 3.00 points.**

Prerequisites: MATH UN1101 *MATH V1101* or the equivalent.

Prerequisites: MATH UN1101 or the equivalent. Methods of integration, applications of the integral, Taylors theorem, infinite series. (SC)

#### **Fall 2024: MATH UN1102**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
MATH 1102	001/11847	M W 1:10pm - 2:25pm 207 Mathematics Building	Andres Ibanez Nunez	3.00	85/100
MATH 1102	002/11848	M W 2:40pm - 3:55pm 207 Mathematics Building	Andres Ibanez Nunez	3.00	53/100
MATH 1102	004/11850	T Th 8:40am - 9:55am 203 Mathematics Building	Lucy Yang	3.00	48/100
MATH 1102	005/11851	T Th 10:10am - 11:25am 203 Mathematics Building	Lucy Yang	3.00	43/100
MATH 1102	006/11852	T Th 6:10pm - 7:25pm 417 Mathematics Building	Elliott Stein	3.00	60/64

#### **Spring 2025: MATH UN1102**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
MATH 1102	001/00477	T Th 2:40pm - 3:55pm LI002 Milstein Center	Lindsay Piechnik	3.00	88/90
MATH 1102	002/15285	M W 10:10am - 11:25am 312 Mathematics Building	Evan Sorensen	3.00	49/100
MATH 1102	003/00493	M W 11:40am - 12:55pm 323 Milbank Hall	Wenjian Liu	3.00	38/100
MATH 1102	004/15287	M W 4:10pm - 5:25pm 606 Martin Luther King Building	Jingbo Wan	3.00	27/30
MATH 1102	005/15289	T Th 10:10am - 11:25am 417 Mathematics Building	Peter Voit	3.00	20/64
MATH 1102	006/15291	T Th 11:40am - 12:55pm 203 Mathematics Building	Dawei Shen	3.00	23/100
MATH 1102	007/15294	T Th 1:10pm - 2:25pm 312 Mathematics Building	Andres Ibanez Nunez	3.00	8/100

### **STAT UN1101 INTRODUCTION TO STATISTICS. 3.00 points.**

Prerequisites: intermediate high school algebra. Designed for students in fields that emphasize quantitative methods. Graphical and numerical summaries, probability, theory of sampling distributions, linear regression, analysis of variance, confidence intervals and hypothesis testing. Quantitative reasoning and data analysis. Practical experience with statistical software. Illustrations are taken from a variety of fields. Data-collection/analysis project with emphasis on study designs is part of the coursework requirement

#### **Fall 2024: STAT UN1101**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
STAT 1101	001/15160	T Th 6:10pm - 7:25pm 602 Hamilton Hall	Dobrin Marchev	3.00	77/86
STAT 1101	002/15161	M W 8:40am - 9:55am 309 Havemeyer Hall	Alex Pijyan	3.00	152/200

#### **Spring 2025: STAT UN1101**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
STAT 1101	001/13989	T Th 10:10am - 11:25am 501 Northwest Corner	Wayne Lee	3.00	88/160
STAT 1101	002/13991	M W 6:10pm - 7:25pm 614 Schermerhorn Hall	Ha Nguyen	3.00	103/120

## **BIOLOGY**

Students are required to complete one year (6 points) of biology emphasizing biochemistry, genetics, evolution, cell biology, developmental biology, and physiology, and one semester (3 points) of biology lab involving dissection, experimentation, and data analysis. Students may take the laboratory course in either the fall or spring semester or in the first summer session after completing the year of biology.

**Notes about Barnard College's biology courses:** Students considering taking the biology course sequence at Barnard College (BIOL X1500-1502) are advised that enrollment in it is subject to the availability of space. Further, enrollment in Barnard's biology courses disqualifies postbacs for linkage. While the Barnard course generally covers the same subject matter as the corresponding Columbia sequence, it does not emphasize biochemistry. Also, content corresponding to Columbia's fall semester course is offered at Barnard in the spring; and content corresponding to Columbia's spring semester course is offered at Barnard in the fall. These courses can be taken in either order. Barnard's biology lab is a two-semester sequence of 2-credit lab courses; however, students who take the Barnard biology lecture sequence are welcome to complete the lab requirement with the Columbia lab course.



## Courses

### BIOL UN2401 CONTEMPORARY BIOLOGY I. 3.00 points.

Prerequisites: a course in college chemistry or the written permission of either the instructor or the premedical adviser. Prerequisites: one year of college chemistry or the written permission of either the instructor or the premedical adviser is required. Recommended as the introductory biology course for science majors who have completed a year of college chemistry and premedical students. The fundamental principles of biochemistry, molecular biology, and genetics. SPS and TC students may register for this course, but they must first obtain the written permission of the instructor, by filling out a paper Registration Adjustment Form (Add/Drop form). The form can be downloaded at the URL below, but must be signed by the instructor and returned to the office of the registrar. <http://registrar.columbia.edu/sites/default/files/content/reg-adjustment.pdf>

#### Fall 2024: BIOL UN2401

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
BIOL 2401 001/10395		T Th 10:10am - 11:25am 417 International Affairs Bldg	Michelle Attner, Marko Jovanovic	3.00	28/200
BIOL 2401 002/10396		T Th 4:10pm - 5:25pm 309 Havemeyer Hall	Michelle Attner, Marko Jovanovic	3.00	33/200

### BIOL UN2501 CONTEMPORARY BIOLOGY LAB. 3.00 points.

Enrollment per section limited to 28. Lab Fee: \$150. Fee: Lab Fee - 150.00

Prerequisite or corequisite: BIOL UN2005 or BIOL UN2401. Contemporary Biology Lab is designed to provide students with hands-on exploration of fundamental and contemporary biological tools and concepts. Activities include in depth study of mammalian anatomy and physiology through dissection and histology, as well as a series of experiments in genetics and molecular biology, with emphasis on data analysis and experimental technique

#### Fall 2024: BIOL UN2501

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
BIOL 2501 001/10715		M 1:10pm - 5:00pm 922 Schermerhorn Hall	Ava Brent	3.00	27/30
BIOL 2501 002/10716		T 1:10pm - 5:00pm 922 Schermerhorn Hall	Joshua Abrams	3.00	23/30
BIOL 2501 003/10717		W 1:10pm - 5:00pm 922 Schermerhorn Hall	Ava Brent	3.00	23/30
BIOL 2501 004/10718		Th 5:40pm - 9:30pm	Joshua Abrams	3.00	25/30

922 Schermerhorn Hall

BIOL 2501 005/10719 F 1:10pm - 5:00pm Ava Brent 3.00 20/30

922 Schermerhorn Hall

#### Spring 2025: BIOL UN2501

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
BIOL 2501 001/11635		M 1:10pm - 5:00pm 922 Schermerhorn Hall	Ava Brent	3.00	11/30
BIOL 2501 002/11636		T 1:10pm - 5:00pm 922 Schermerhorn Hall	Joshua Abrams	3.00	12/30
BIOL 2501 003/11637		W 1:10pm - 5:00pm 922 Schermerhorn Hall	Ava Brent	3.00	13/30
BIOL 2501 004/11638		Th 5:40pm - 9:30pm 922 Schermerhorn Hall	Joshua Abrams	3.00	17/30

### BIOL UN2402 CONTMP BIO II:CELL BIO,DEV,PHYS. 3.00 points.

Prerequisites: a course in college chemistry and *BIOL C2005* or *F2401*, or the written permission of either the instructor or the premedical adviser.

Prerequisites: a course in college chemistry and BIOL UN2005 or BIOL UN2401, or the written permission of either the instructor or the premedical adviser. Cellular biology and development; physiology of cells and organisms. Same lectures as BIOL UN2006, but recitation is optional. For a detailed description of the differences between the two courses, see the course web site or <http://www.columbia.edu/cu/biology/ug/advice/faqs/gs.html>. SPS, Barnard, and TC students may register for this course, but they must first obtain the written permission of the instructor, by filling out a paper Registration Adjustment Form (Add/Drop form). The form can be downloaded at the URL below, but must be signed by the instructor and returned to the office of the registrar. <http://registrar.columbia.edu/sites/default/files/content/reg-adjustment.pdf>

#### Spring 2025: BIOL UN2402

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
BIOL 2402 001/11654		T Th 10:10am - 11:25am 417 International Affairs Bldg	Alice Heicklen, Mary Ann Price, Jellert Gaublonme	3.00	35/400
BIOL 2402 002/11655		T Th 4:10pm - 5:25pm 417 International Affairs Bldg	Alice Heicklen, Mary Ann Price, Jellert Gaublonme	3.00	23/400

## BIOCHEMISTRY (RECOMMENDED)

Because increasing numbers of medical schools require a semester of biochemistry, it is strongly recommended that postbacs take biochemistry. Usually, students take it during the application year.

### Courses

#### **BIOC UN3300 BIOCHEMISTRY. 3.00 points.**

Prerequisites: one year each of Introductory Biology and General Chemistry.

Prerequisites: one year each of Introductory Biology and General Chemistry. Corequisites: Organic Chemistry. Biochemistry is the study of the chemical processes within organisms that give rise to the immense complexity of life. This complexity emerges from a highly regulated and coordinated flow of chemical energy from one biomolecule to another. This course serves to familiarize students with the spectrum of biomolecules (carbohydrates, lipids, amino acids, nucleic acids, etc.) as well as the fundamental chemical processes (glycolysis, citric acid cycle, fatty acid metabolism, etc.) that allow life to happen. In particular, this course will employ active learning techniques and critical thinking problem-solving to engage students in answering the question: how is the complexity of life possible? NOTE: While Organic Chemistry is listed as a corequisite, it is highly recommended that you take Organic Chemistry beforehand

## CHEMISTRY

Students are required to complete one year (8 points) of general chemistry and one semester (3 points) of general chemistry laboratory. The General Chemistry sequence must be completed before taking Columbia's Biology or Organic Chemistry courses. General chemistry lecture courses have corresponding, mandatory recitations. The laboratory course has a mandatory one-hour laboratory lecture course associated with it, and should be taken alongside or after General Chemistry II. AP credits cannot be used to fulfill the general chemistry requirement.

Chemistry is a course sequence that students are advised to begin in the fall or spring term. Students who enroll in Chemistry I in the spring are advised to take the 12-week Chemistry II course in the summer.

### Courses

#### **CHEM UN1403 GENERAL CHEMISTRY I- LECTURES. 4.00 points.**

CC/GS: Partial Fulfillment of Science Requirement

Corequisites: MATH UN1101

Corequisites: MATH UN1101 Preparation equivalent to one year of high school chemistry is assumed. Students lacking such preparation should plan independent study of chemistry over the summer or take CHEM UN0001 before taking CHEM UN1403. Topics include stoichiometry, states

of matter, nuclear properties, electronic structures of atoms, periodic properties, chemical bonding, molecular geometry, introduction to quantum mechanics and atomic theory, introduction to organic and biological chemistry, solid state and materials science, polymer science and macromolecular structures and coordination chemistry. Although CHEM UN1403 and CHEM UN1404 are separate courses, students are expected to take both terms sequentially. The order of presentation of topics may differ from the order presented here, and from year to year. Students must ensure they register for the recitation that corresponds to the lecture section. When registering, please add your name to the wait list for the recitation corresponding to the lecture section (1405 for lecture sec 001; 1407 for lecture sec 002; 1409 for lecture sec 003; 1411 for lecture sec 004). Information about recitation registration will be sent out before classes begin. DO NOT EMAIL THE INSTRUCTOR. Please check the Directory of Classes for details

#### **Fall 2024: CHEM UN1403**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
CHEM 1403	001/11207	M W 10:10am - 11:25am 309 Havemeyer Hall	Gerard Parkin	4.00	240/250
CHEM 1403	002/11450	T Th 10:10am - 11:25am 309 Havemeyer Hall	Xavier Roy	4.00	243/240
CHEM 1403	003/11140	T Th 6:10pm - 7:25pm 309 Havemeyer Hall	Ruben Savizky	4.00	174/190
CHEM 1403	004/11141	M W 6:10pm - 7:25pm 312 Mathematics Building	Robert Beer	4.00	34/120
CHEM 1403	AU3/18836	T Th 6:10pm - 7:25pm Othr Other	Ruben Savizky	4.00	6/10
CHEM 1403	AU4/18837	M W 6:10pm - 7:25pm Othr Other	Robert Beer	4.00	6/10

#### **Spring 2025: CHEM UN1403**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
CHEM 1403	001/11152	T Th 6:10pm - 7:25pm 309 Havemeyer Hall	Ruben Savizky	4.00	110/130
CHEM 1403	AU1/18501	T Th 6:10pm - 7:25pm Othr Other	Ruben Savizky	4.00	7/10

#### **CHEM UN1500 GENERAL CHEMISTRY LABORATORY. 3.00 points.**

CC/GS: Partial Fulfillment of Science Requirement  
Lab Fee: \$140.

Corequisites: CHEM UN1403, CHEM UN1404

Corequisites: CHEM UN1403, CHEM UN1404 An introduction to basic lab techniques of modern experimental

chemistry, including quantitative procedures and chemical analysis. Students must register for a Lab Lecture section for this course (CHEM UN1501). Please check the Directory of Classes for details. Please note that CHEM UN1500 is offered in the fall and spring semesters. Mandatory lab check-in will be held during the first week of classes in both the fall and spring semesters. You may be asked to serve as research subjects in studies under direction of the faculty while enrolled in this course (CHEM UN1500 Sec 1, 2, 4, 6 and CHEM UN1501 Sec 1). Participation in voluntary

#### Fall 2024: CHEM UN1500

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
CHEM 1500	001/11157	T 1:10pm - 4:50pm 302 Havemeyer Hall	Sarah Hansen	3.00	18/46
CHEM 1500	002/11158	T 6:10pm - 9:50pm 302 Havemeyer Hall	Joseph Ulichny	3.00	46/48
CHEM 1500	003/11159	W 1:10pm - 4:50pm 302 Havemeyer Hall	Joseph Ulichny	3.00	44/48
CHEM 1500	004/11160	Th 1:10pm - 4:50pm 302 Havemeyer Hall	Sarah Hansen	3.00	9/46

#### Spring 2025: CHEM UN1500

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
CHEM 1500	001/11161	M 2:10pm - 5:50pm 302 Havemeyer Hall	Sarah Hansen	3.00	26/24
CHEM 1500	002/11162	T 1:10pm - 4:50pm 302 Havemeyer Hall	Sarah Hansen	3.00	42/46
CHEM 1500	003/11163	T 6:10pm - 9:50pm 302 Havemeyer Hall	Joseph Ulichny	3.00	52/48
CHEM 1500	004/11164	W 8:40am - 12:25pm 302 Havemeyer Hall	Sarah Hansen	3.00	45/46
CHEM 1500	005/11165	W 1:10pm - 4:50pm 302 Havemeyer Hall	Joseph Ulichny	3.00	49/48
CHEM 1500	006/11166	Th 1:10pm - 4:50pm 302 Havemeyer Hall	Sarah Hansen	3.00	32/46
CHEM 1500	007/11167	Th 6:10pm - 9:50pm 302 Havemeyer Hall	Joseph Ulichny	3.00	51/48
CHEM 1500	008/11168	F 1:10pm - 4:50pm 302 Havemeyer Hall	Joseph Ulichny	3.00	30/27

#### CHEM UN1404 GENERAL CHEMISTRY II- LECTURES. 4.00 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: CHEM UN1403 *CHEM W1403*.

Prerequisites: CHEM UN1403 Although CHEM UN1403 and CHEM UN 1404 are separate courses, students are expected to take both terms sequentially. Topics include gases, kinetic theory of gases, states of matter: liquids and solids, chemical equilibria, applications of equilibria, acids and bases, chemical thermodynamics, energy, enthalpy, entropy, free energy, periodic properties, chemical kinetics, and electrochemistry. The order of presentation of topics may differ from the order presented here, and from year to year. Students must ensure they register for the recitation that corresponds to the lecture section. Please check the Directory of Classes for details

#### Fall 2024: CHEM UN1404

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
CHEM 1404	001/11139	T Th 10:10am - 11:25am 401 Chandler	Christopher Eckdahl	4.00	40/50
CHEM 1404	AU1/18838	T Th 10:10am - 11:25am Othr Other	Christopher Eckdahl	4.00	2/10

#### Spring 2025: CHEM UN1404

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
CHEM 1404	001/11160	T Th 10:10am - 11:25am 309 Havemeyer Hall	Christopher Eckdahl	4.00	195/185
CHEM 1404	002/11336	M W 8:40am - 9:55am 309 Havemeyer Hall	Milan Delor	4.00	138/170
CHEM 1404	003/11194	M W 6:10pm - 7:25pm 209 Havemeyer Hall	Robert Beer	4.00	34/60
CHEM 1404	AU3/18502	M W 6:10pm - 7:25pm Othr Other	Robert Beer	4.00	3/10

## ORGANIC CHEMISTRY

Students are required to complete one year (8 points) of organic chemistry. Organic chemistry lecture courses have corresponding, mandatory recitations. Students are also required to take 1.5 points of organic chemistry lab along with a one-hour mandatory laboratory lecture in both fall and spring semesters (for a total of 3 points). Alternatively, with the exception of most linkage applicants, students may take a 3-point lab over a six-week summer session after completing the lecture sequence.

#### Notes about Barnard College's organic chemistry

**courses:** Students considering taking the organic chemistry course sequence at Barnard College (CHEM X3230-3231) are advised that enrollment in it is subject to the availability of space. Further, enrollment in Barnard's organic chemistry

courses disqualifies postbacs for linkage. The content corresponding to Columbia's fall semester course is offered at Barnard in the spring; and content corresponding to Columbia's spring semester course is offered at Barnard in the fall. Students planning to take the Barnard course sequence must begin it in the spring. Columbia students who take organic chemistry at Barnard usually fulfill the organic chemistry lab requirement with the Columbia courses.

## Courses

### CHEM UN2443 ORGANIC CHEMISTRY I-LECTURES. 4.00 points.

Prerequisites: (CHEM UN1403 and CHEM UN1404) or CHEM UN1604 *CHEM W1404* or *CHEM W1604* and *CHEM W1500*

Prerequisites: (CHEM UN1403 and CHEM UN1404) or CHEM UN1604 The principles of organic chemistry. The structure and reactivity of organic molecules are examined from the standpoint of modern theories of chemistry. Topics include stereochemistry, reactions of organic molecules, mechanisms of organic reactions, syntheses and degradations of organic molecules, and spectroscopic techniques of structure determination. Although CHEM UN2443 and CHEM UN2444 are separate courses, students are expected to take both terms sequentially. Students must ensure they register for the recitation which corresponds to the lecture section. Please check the Directory of Classes for details

#### Fall 2024: CHEM UN2443

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
CHEM 2443	001/12538	M W 11:40am - 12:55pm 309 Havemeyer Hall	James Leighton	4.00	147/150
CHEM 2443	002/11239	T Th 1:10pm - 2:25pm 309 Havemeyer Hall	Neel Shah	4.00	84/120
CHEM 2443	003/11168	M W 6:10pm - 7:25pm 309 Havemeyer Hall	Charles Doubleday	4.00	85/120
CHEM 2443	AU3/18839	M W 6:10pm - 7:25pm Othr Other	Charles Doubleday	4.00	4/10

### CHEM UN2444 ORGANIC CHEMISTRY II-LECTURES. 4.00 points.

Prerequisites: CHEM UN1404 or CHEM UN1604 and CHEM UN1500 and CHEM UN2443 *CHEM W1404* or *CHEM W1604* and *CHEM W1500*.

Prerequisites: CHEM UN1404 or CHEM UN1604, CHEM UN1500 and CHEM UN2443. The principles of organic chemistry. The structure and reactivity of organic molecules are examined from the standpoint of modern theories of chemistry. Topics include stereochemistry, reactions of organic molecules, mechanisms of organic reactions, syntheses and degradations of organic molecules, and spectroscopic techniques of structure determination.

Although CHEM UN2443 and CHEM UN2444 are separate courses, students are expected to take both terms sequentially. Students must ensure they register for the recitation which corresponds to the lecture section. Please check the Directory of Classes for details

#### Spring 2025: CHEM UN2444

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
CHEM 2444	001/11173	M W 11:40am - 12:55pm 309 Havemeyer Hall	Christopher Eckdahl	4.00	128/150
CHEM 2444	002/11174	T Th 11:40am - 12:55pm 309 Havemeyer Hall	James Leighton	4.00	107/110
CHEM 2444	003/11175	M W 6:10pm - 7:25pm 309 Havemeyer Hall	Charles Doubleday	4.00	50/65
CHEM 2444	AU3/18503	M W 6:10pm - 7:25pm Othr Other	Charles Doubleday	4.00	4/10

### CHEM UN2493 ORGANIC CHEM. LAB I TECHNIQUES. 0.00 points.

Lab Fee: \$63.00

Prerequisites: (CHEM UN1403 and CHEM UN1404) or (CHEM UN1604) and (CHEM UN1500 or CHEM UN1507) *CHEM W2443*.

Corequisites: CHEM UN2443

Prerequisites: (CHEM UN1403 and CHEM UN1404) or (CHEM UN1604) and (CHEM UN1500 or CHEM UN1507) Corequisites: CHEM UN2443 Techniques of experimental organic chemistry, with emphasis on understanding fundamental principles underlying the experiments in methodology of solving laboratory problems involving organic molecules. Attendance at the first lab lecture and laboratory session is mandatory. Please note that CHEM UN2493 is the first part of a full year organic chemistry laboratory course. Students must register for the lab lecture section (CHEM UN2495) which corresponds to their lab section. Students must attend ONE lab lecture and ONE lab section every other week. Please contact your advisers for further information

#### Fall 2024: CHEM UN2493

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
CHEM 2493	001/11169	M 1:10pm - 4:50pm 202a Havemeyer Hall	Talha Siddiqui	0.00	21/24
CHEM 2493	002/11170	T 12:10pm - 3:50pm 202a Havemeyer Hall	Talha Siddiqui	0.00	20/24
CHEM 2493	003/11171	T 6:10pm - 9:50pm 202a Havemeyer Hall	Talha Siddiqui	0.00	33/34
CHEM 2493	004/11172	W 1:10pm - 4:50pm	Anna Ghurbanyan	0.00	28/34



		202a Havemeyer Hall			
CHEM 2493	005/11173	Th 12:10pm - 3:50pm 202a Havemeyer Hall	Anna Ghurbanyan	0.00	30/34
CHEM 2493	006/11180	F 11:10am - 2:50pm 202a Havemeyer Hall	Anna Ghurbanyan	0.00	14/34
CHEM 2493	007/11181	M 1:10pm - 4:50pm 202a Havemeyer Hall	Talha Siddiqui	0.00	20/24
CHEM 2493	008/11182	T 12:10pm - 3:50pm 202a Havemeyer Hall	Talha Siddiqui	0.00	22/24
CHEM 2493	009/11183	T 6:10pm - 9:50pm 202a Havemeyer Hall	Talha Siddiqui	0.00	30/34
CHEM 2493	010/11184	W 1:10pm - 4:50pm 202a Havemeyer Hall	Anna Ghurbanyan	0.00	18/34
CHEM 2493	011/11185	Th 12:10pm - 3:50pm 202a Havemeyer Hall	Anna Ghurbanyan	0.00	8/34
CHEM 2493	012/11186	F 11:10am - 2:50pm 202a Havemeyer Hall	Anna Ghurbanyan	0.00	9/34

### **CHEM UN2494 ORGANIC CHEM. LAB II SYNTHESIS. 0.00 points.**

Lab Fee: \$62.00

Prerequisites: (CHEM UN1403 and CHEM UN1404) and CHEM UN1500 and CHEM UN2493 *CHEM W1403-CHEM W1404; CHEM W1500; CHEM W2493.*

Corequisites: CHEM UN2444

Prerequisites: CHEM W1403-CHEM W1404; CHEM W1500; CHEM W2493. Corequisites: CHEM W2444.

Please note that you must complete CHEM W2493 before you register for CHEM W2494. This lab introduces students to experimental design and trains students in the execution and evaluation of scientific data. The technique experiments in the first half of the course (CHEM W2493) teach students to develop and master the required experimental skills to perform the challenging synthesis experiments in the second semester. The learning outcomes for this lab are the knowledge and experimental skills associated with the most important synthetic routes widely used in industrial and research environments. Attendance at the first lab lecture and laboratory session is mandatory. Please note that CHEM W2494 is the second part of a full year organic chemistry laboratory course. Students must register for the lab lecture section (CHEM W2496) which corresponds to their lab section. Students must attend ONE lab lecture and ONE lab section every other week. Please contact your advisors for further information

### **Spring 2025: CHEM UN2494**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
CHEM 2494	001/11240	M 1:10pm - 4:50pm 202a Havemeyer Hall	Talha Siddiqui	0.00	19/24
CHEM 2494	002/11241	T 12:10pm - 3:50pm 202a Havemeyer Hall	Talha Siddiqui	0.00	17/24
CHEM 2494	003/11253	T 6:10pm - 9:50pm 202a Havemeyer Hall	Talha Siddiqui	0.00	17/34
CHEM 2494	004/11242	W 1:10pm - 4:50pm 202a Havemeyer Hall	Anna Ghurbanyan	0.00	35/34
CHEM 2494	005/11243	Th 12:10pm - 3:50pm 202a Havemeyer Hall	Anna Ghurbanyan	0.00	13/34
CHEM 2494	006/11244	F 11:10am - 2:50pm 202a Havemeyer Hall	Anna Ghurbanyan	0.00	31/34
CHEM 2494	007/11276	M 1:10pm - 4:50pm 202a Havemeyer Hall	Talha Siddiqui	0.00	22/24
CHEM 2494	008/11275	T 12:10pm - 3:50pm 202a Havemeyer Hall	Talha Siddiqui	0.00	12/24
CHEM 2494	009/11245	T 6:10pm - 9:50pm 202a Havemeyer Hall	Talha Siddiqui	0.00	30/34
CHEM 2494	010/11246	W 1:10pm - 4:50pm 202a Havemeyer Hall	Anna Ghurbanyan	0.00	31/34
CHEM 2494	011/11277	Th 12:10pm - 3:50pm 202a Havemeyer Hall	Anna Ghurbanyan	0.00	5/34
CHEM 2494	012/11278	F 11:10am - 2:50pm 202a Havemeyer Hall	Anna Ghurbanyan	0.00	13/34

## **PHYSICS**

Students are required to complete one year (6 points) of general physics and one year (2 points) of general physics laboratory. Lab courses are normally taken concurrently with the corresponding lecture course. Physics is a course sequence that students are advised to begin in the fall or spring term. Students who enroll in Physics I in the spring are advised to take the twelve-week Physics II course in the summer. (Physics II is not offered in the fall.) Calculus is a corequisite for Physics I; however, students who have never taken calculus before may be advised to complete it before undertaking Physics.



## Courses

### PHYS UN1201 GENERAL PHYSICS I. 3.00 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: some basic background in calculus or be concurrently taking *MATH V1101x* Calculus I.

Prerequisites: some basic background in calculus or be concurrently taking MATH UN1101 Calculus I. The accompanying laboratory is PHYS UN1291-UN1292 The course will use elementary concepts from calculus. The accompanying laboratory is PHYS UN1291 - UN1292. Basic introduction to the study of mechanics, fluids, thermodynamics, electricity, magnetism, optics, special relativity, quantum mechanics, atomic physics, and nuclear physics

#### Fall 2024: PHYS UN1201

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PHYS 1201	001/14617	M W 11:40am - 12:55pm 301 Pupin Laboratories	John Parsons	3.00	166/180
PHYS 1201	002/14618	T Th 2:40pm - 3:55pm 301 Pupin Laboratories	Cory Dean	3.00	154/180

#### Spring 2025: PHYS UN1201

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PHYS 1201	001/13441	M W 4:10pm - 5:25pm 428 Pupin Laboratories	Gabriel Perez-Giz	3.00	127/145

### PHYS UN1291 GENERAL PHYSICS I LAB. 1.00 point.

Same course as *PHYS W1291x*, but given off-sequence.

Corequisites: PHYS UN1201

Corequisites: PHYS UN1201 This course is the laboratory for the corequisite lecture course and can be taken only during the same term as the corresponding lecture

#### Fall 2024: PHYS UN1291

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PHYS 1291	001/14619	M 1:00pm - 4:00pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	13/15
PHYS 1291	002/14620	M 1:00pm - 4:00pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	15/15
PHYS 1291	003/14621	M 4:10pm - 7:10pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	14/15
PHYS 1291	004/14622	M 4:10pm - 7:10pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	14/15
PHYS 1291	005/14623	M 7:30pm - 10:30pm	Giuseppina Cambareri	1.00	9/15

PHYS 1291	007/14624	5th Flr Pupin Laboratories T 1:00pm - 4:00pm	Giuseppina Cambareri	1.00	14/15
PHYS 1291	008/14625	5th Flr Pupin Laboratories T 1:00pm - 4:00pm	Giuseppina Cambareri	1.00	12/15
PHYS 1291	009/14626	5th Flr Pupin Laboratories T 4:10pm - 7:10pm	Giuseppina Cambareri	1.00	14/15
PHYS 1291	010/14627	5th Flr Pupin Laboratories T 4:10pm - 7:10pm	Giuseppina Cambareri	1.00	13/15
PHYS 1291	011/14628	5th Flr Pupin Laboratories T 7:30pm - 10:30pm	Giuseppina Cambareri	1.00	12/15
PHYS 1291	013/14629	5th Flr Pupin Laboratories W 1:00pm - 4:00pm	Giuseppina Cambareri	1.00	14/15
PHYS 1291	014/14630	5th Flr Pupin Laboratories W 1:00pm - 4:00pm	Giuseppina Cambareri	1.00	15/15
PHYS 1291	015/14631	5th Flr Pupin Laboratories W 4:10pm - 7:10pm	Giuseppina Cambareri	1.00	12/15
PHYS 1291	016/14632	5th Flr Pupin Laboratories W 4:10pm - 7:10pm	Giuseppina Cambareri	1.00	12/15
PHYS 1291	017/14633	5th Flr Pupin Laboratories W 7:30pm - 10:30pm	Giuseppina Cambareri	1.00	12/15
PHYS 1291	019/14634	5th Flr Pupin Laboratories Th 1:00pm - 4:00pm	Giuseppina Cambareri	1.00	9/15
PHYS 1291	021/14636	5th Flr Pupin Laboratories Th 4:10pm - 7:10pm	Giuseppina Cambareri	1.00	15/15
PHYS 1291	023/14637	5th Flr Pupin Laboratories Th 7:30pm - 10:30pm	Giuseppina Cambareri	1.00	15/15
PHYS 1291	025/14638	5th Flr Pupin Laboratories F 1:00pm - 4:00pm	Giuseppina Cambareri	1.00	13/15
PHYS 1291	026/14639	5th Flr Pupin Laboratories F 1:00pm - 4:00pm	Giuseppina Cambareri	1.00	11/15

#### Spring 2025: PHYS UN1291

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PHYS 1291	001/13628	M 1:00pm - 4:00pm	Giuseppina Cambareri	1.00	15/15

		5th Flr Pupin Laboratories			
PHYS 1291	002/13629	M 7:30pm - 10:30pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	11/15
PHYS 1291	003/13631	T 1:00pm - 4:00pm	Giuseppina Cambareri,	1.00	14/15
		5th Flr Pupin Laboratories	Rebecca Grossman		
PHYS 1291	004/13632	T 4:10pm - 7:10pm	Giuseppina Cambareri	1.00	10/15
		5th Flr Pupin Laboratories			
PHYS 1291	005/13634	W 1:00pm - 4:00pm 5th Flr Pupin Laboratories	Giuseppina Cambareri, Rebecca Grossman	1.00	15/15
PHYS 1291	006/13635	W 7:30pm - 10:30pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	10/15
PHYS 1291	007/13636	Th 1:00pm - 4:00pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	13/15
PHYS 1291	008/13637	Th 4:10pm - 7:10pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	11/15

**PHYS UN1292 GENERAL PHYSICS II****LABORATORY. 1.00 point.**

Corequisites: PHYS UN1201,PHYS UN1202

Corequisites: PHYS UN1201,PHYS UN1202 This course is the laboratory for the corequisite lecture course (PHYS UN1201 - PHYS UN1202) and can be taken only during the same term as the corresponding lecture

**Spring 2025: PHYS UN1292**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PHYS 1292	001/13650	M 1:00pm - 4:00pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	14/15
PHYS 1292	002/13652	M 1:00pm - 4:00pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	14/15
PHYS 1292	003/13653	M 4:10pm - 7:10pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	12/15
PHYS 1292	004/13655	M 4:10pm - 7:10pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	12/15
PHYS 1292	005/13656	M 7:30pm - 10:30pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	14/15
PHYS 1292	007/13657	T 1:00pm - 4:00pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	15/15

PHYS 1292	009/13659	T 4:10pm - 7:10pm	Giuseppina Cambareri	1.00	15/15
PHYS 1292	010/13660	T 4:10pm - 7:10pm	Giuseppina Cambareri	1.00	12/15
PHYS 1292	011/13661	T 7:30pm - 10:30pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	12/15
PHYS 1292	013/13663	W 1:00pm - 4:00pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	15/15
PHYS 1292	014/13664	W 1:00pm - 4:00pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	13/15
PHYS 1292	015/13666	W 4:10pm - 7:10pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	14/15
PHYS 1292	016/13668	W 4:10pm - 7:10pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	13/15
PHYS 1292	017/13669	W 7:30pm - 10:30pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	14/15
PHYS 1292	018/13670	Th 1:00pm - 4:00pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	13/15
PHYS 1292	020/13673	Th 4:10pm - 7:10pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	15/15
PHYS 1292	022/13674	Th 7:30pm - 10:30pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	14/15
PHYS 1292	025/13675	F 1:00pm - 4:00pm 5th Flr Pupin Laboratories	Giuseppina Cambareri	1.00	12/15

**PSYCHOLOGY (RECOMMENDED)**

Premeds who have not previously studied psychology at the college level should consider enrolling in THE SCIENCE OF PSYCHOLOGY (PSYC UN1001) in order to be fully prepared for the MCAT.

**Courses****PSYC UN1001 THE SCIENCE OF PSYCHOLOGY. 3.00 points.**

CC/GS: Partial Fulfillment of Science Requirement

Enrollment may be limited. Attendance at the first two class periods is mandatory.

Prerequisites: BLOCKED CLASS. EVERYONE MUST JOIN WAITLIST TO BE ADMITTED Broad survey of

psychological science including: sensation and perception; learning, memory, intelligence, language, and cognition; emotions and motivation; development, personality, health and illness, and social behavior. Discusses relations between the brain, behavior, and experience. Emphasizes science as a process of discovering both new ideas and new empirical results. PSYC UN1001 serves as a prerequisite for further psychology courses and should be completed by the sophomore year

#### Fall 2024: PSYC UN1001

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1001	001/10689	T Th 1:10pm - 2:25pm 501 Schermerhorn Hall	Patricia Lindemann	3.00	176/200
PSYC 1001	002/13843	M W 11:40am - 12:55pm 501 Schermerhorn Hall	Sarah DeMoya	3.00	166/200
PSYC 1001	003/10670	M W 10:10am - 11:25am 501 Schermerhorn Hall	Nora Isacoff	3.00	154/200

#### Spring 2025: PSYC UN1001

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1001	001/11791	T Th 1:10pm - 2:25pm 501 Schermerhorn Hall	Patricia Lindemann	3.00	207/224
PSYC 1001	002/11792	T Th 10:10am - 11:25am 501 Schermerhorn Hall	John Thorp	3.00	198/225
PSYC 1001	AU1/18826	T Th 1:10pm - 2:25pm Othr Other	Patricia Lindemann	3.00	5/5
PSYC 1001	AU2/18827	T Th 10:10am - 11:25am Othr Other	John Thorp	3.00	4/5

## PREPARATORY COURSEWORK

Success in math and science courses begins with a strong foundation. For students who are transitioning from another field of study and/or who are interested in strengthening foundations before beginning pre-medical coursework, Columbia offers the following preparation course options.

### CHEMISTRY

CHEM UN0001 PREPARATION-COLLEGE CHEMISTRY; Pass/Fail; offered in the fall.

CHEM S0001D Preparation for College Chemistry; Pass/Fail; offered in the summer.

### MATHEMATICS

MATH S0065D Basic Mathematics; Pass/Fail; offered in the summer.

MATH UN1003 COLLEGE ALGEBRA-ANLYTC GEOMETRY; May be taken for a letter grade or Pass/D/Fail; offered in the fall and spring.

MATH S1003D College Algebra and Analytic Geometry; May be taken for a letter grade or Pass/D/Fail; offered in the summer.

MATH S1003Q College Algebra and Analytic Geometry; May be taken for a letter grade or Pass/D/Fail; offered in the summer.

### PHYSICS

PHYS S0065Q Basic Physics; Pass/Fail; offered in the summer only. MATH UN1003 is the recommended prerequisite for this course.

### BIOLOGY

BIOL UN1004 Foundations of Biology; May be taken for a letter grade or Pass/D/Fail; offered in spring.

### PLACEMENT EXAMS

Placement Exams are available to help students determine whether preparatory courses may be helpful. Students are also strongly encouraged to consult with their premedical advisors for guidance.

## PREVIOUSLY COMPLETED COURSEWORK

### ADMITTED STUDENTS

Some Postbac Premed students may have completed one or more of the prerequisite courses before matriculating in the Program. Depending on when and where such coursework was completed, and the grade(s) received, students may be able to place out of requirements; in some cases, however, they may be advised or required to repeat coursework or to take advanced-level science coursework in order to be more competitive applicants to medical school. Quarter-term courses taken at undergraduate institutions may not represent the same number of credit hours as semester courses, and therefore may not satisfy requirements.

Advisors typically have discussions with students about repeating coursework after a student has been admitted and attended a Postbac Planning Session.

## CURRENT STUDENTS

Once a student matriculates into the program, all subsequent required courses must be completed at Columbia University, unless an exception is made based on a petition submitted to the Premedical Committee.

As there are some variations in requirements from school to school and state to state, students are advised to consult individual medical schools and healthcare programs for specific prerequisites to complete in addition to the basic premedical curriculum. Students coming from professionally-focused undergraduate schools (e.g., engineering, culinary, visual or performing arts, nursing, business, etc.) who may lack sufficient grounding in liberal arts are advised to address this deficiency through additional non-science coursework in order to be competitive candidates for medical school.

## CERTIFICATE IN PREMEDICAL SCIENCES

Students who complete the premedical or prehealth curriculum while enrolled in the Postbac Premed Program may be eligible for a Certificate in Premedical or Prehealth Sciences, if they have taken at least twenty points of science courses at Columbia. The Certificate is not required by medical schools or other programs of study in the health professions; however, it does signify that a student has satisfactorily completed a rigorous premedical/prehealth curriculum as recognized by Columbia University and the State of New York. Certificates in Premedical and Prehealth Sciences are officially conferred on three different dates (in May, October, and February). Students who receive the certificate become alumni of the University.

### ELIGIBILITY

Students should consult with their advisor concerning eligibility for the Certificate. Generally, students are eligible to receive a Certificate in Premedical or Prehealth Sciences from Columbia University if they:

- Complete the program within five years of matriculation
- Earn a minimum of 20 points in the required premedical math and science curriculum while enrolled in the Postbac Premed Program, including concurrent completion of the organic chemistry and biology course sequences (or an approved advanced-level equivalent) with satisfactory grades and a minimum cumulative grade point average of 2.75

Students who begin their studies in the Premedical Sciences at Columbia, but go elsewhere to complete any remaining requirements, are ineligible for the Certificate.

## APPLYING

In order for the Certificate to be conferred, eligible students must file an application via the "Forms" section of the [Student Success Portal](#) by the following deadlines, as set by the Office of the Registrar:

**August 1:** for October certificates

**November 1:** for February certificates

**March 15:** for May certificates

## ACADEMIC POLICIES

Academic policies are set by the Faculty of Arts and Sciences and the academic administration of individual schools within the Arts and Sciences.

Students in the School of General Studies are expected to familiarize themselves with GS policies. Students seeking clarity on academic policies relevant to or beyond those stated on the GS website should consult with their GS advisors.

The Joint Committee on Instruction (COI) for GS and Columbia College reviews and sets curriculum and academic policies, while the GS Committee on Academic Standing (CAS) ensures that all students comply with the academic and administrative policies of the School. See the [School Governance](#) page for further information.

## ACADEMIC HONORS UNDERGRADUATE

### Dean's List

Undergraduates who complete the fall, spring, or summer terms with a 3.6 GPA or higher are named to the Dean's List, provided they have completed at least three courses (nine or more points) for a letter grade. Disciplinary probation, as well as marks of W, F, or D, disqualify a student from consideration. Students who receive the grade of IN (incomplete), approved in advance by the Committee on Academic Standing, are eligible for Dean's List only after all IN grades are changed to letter grades. Those receiving the mark of YC (year course) will be eligible for Dean's List status only after the grade for the entire year's coursework is awarded. Students who have been found responsible by the Office of Student Conduct and Community Standards for a violation of academic integrity are not eligible for the Dean's List during any semester into which the term of the sanction extends.

### Honor Society

The Honor Society of the School of General Studies was formed to celebrate exceptional GS undergraduates committed to intellectual discovery and academic excellence.

The only group of its kind at the University, the Honor Society fosters a community of scholars, providing a unique opportunity for students to interact with other members, faculty associates, and alumni. Criteria for membership include a GPA of at least 3.8, a minimum of 30 completed Columbia points, a minimum of 60 total completed points, and good academic and disciplinary standing. Students may not apply for membership.

## School (Latin) Honors

The designations *cum laude*, *magna cum laude*, and *summa cum laude* are academic honors determined by an undergraduate student's cumulative GPA at the time of graduation based on coursework completed at Columbia University once a student has matriculated within the School of General Studies. The honor is noted on a student's diploma and transcript.

Beginning with the conferral of degrees in February 2021, the School of General Studies awards Latin Honors in the following way: the top five percent of the graduating class by GPA receives the award *summa cum laude*, the next ten percent receives the award *magna cum laude*, and the next ten percent receives the award *cum laude*. No more than 25% of the graduating class overall may receive Latin Honors. Students are notified if they have received Latin Honors via an email sent a few weeks following degree conferral.

## Departmental Honors

Many departments award honors to undergraduate majors who complete their major requirements with distinction. Eligibility for departmental honors varies among departments; students should consult individual departments for further information. Departmental honors are noted on a student's transcript but not on the diploma. Departmental honors are not given for concentrations.

## Phi Beta Kappa

By action of the Senate of the United Chapters of Phi Beta Kappa in March 1952, degree candidates in the School of General Studies are eligible for election to Phi Beta Kappa and membership in the Columbia (Delta) Chapter. The selection of this group (up to ten percent of the graduating class) is based not only on academic achievement, but also on evidence of intellectual promise, character, and achievement outside the classroom. Academic achievement is measured by strength and rigor of program as well as grades and faculty recommendations. Students may not apply for Phi Beta Kappa.

As with school prizes, October and February graduates are considered along with students graduating in May. Election to Phi Beta Kappa is noted on a student's transcript.

The General Studies Section of the Delta Chapter of Phi Beta Kappa annually presents the Phi Beta Kappa Award to a GS senior elected to Phi Beta Kappa who, during his or her

academic career, has best exemplified intellectual integrity, tolerance for others' views, and a broad range of academic interests.

## School Prizes

Each year the School of General Studies awards prizes for academic excellence as well as outstanding leadership. Current prizes include the following:

- The Albert E. Gollin Prize, awarded to a junior with promising talent in sociology, media, or journalism
- The Medaglia D'Oro Prize for excellence in Italian studies
- The John Angus Burrell Memorial Prize for distinction in English and comparative literature
- The Arthur Ross Foundation Award for excellence in political science
- The Benedetto Marraro Prize for distinction in Italian studies
- The Antonio G. Mier Prize for excellence in Spanish
- The Stacy M. and Russell D. Paul Prize for excellence in the study of psychology
- The Jennifer A. Pack Prize for excellence in the study of psychology
- The Lillian L. Hacker Prize for excellence in the study of sociology
- The Judith Lee Stronach Memorial Prize for outstanding contributions in art history or archaeology
- The Dean's Citation for leadership and outstanding service to the School (for graduating seniors only)
- The Alumni Key Award for academic achievement and outstanding service to the School (for graduating seniors only)
- The Dean's Prize in Economics for excellence in the study of economics
- The Dean's Prize in Anthropology for excellence in the study of anthropology
- The Dean's Prize in Creative Writing for excellence in the study of creative writing
- The Herbert H. Lehman Prize for Excellence in history, given to a student with an outstanding record of accomplishment in history courses at Columbia (preference is given to those with substantial coursework in U.S. History)
- The Phi Beta Kappa Award for outstanding scholarship



## POSTBAC PREMED

### Dean's List

Students who complete the fall or spring terms with a 3.6 G.P.A. or higher are named to the Dean's List, provided they have completed at least 7.5 points of required premedical course work for letter grades and have earned no grade below a B. A mark of AR, IN or W disqualifies a student from consideration. A student found responsible by the Office of Student Conduct and Community Standards for a violation of academic integrity is not eligible for the Dean's List during the term of the sanction. There is no Dean's List for the summer term.

## ACADEMIC INTEGRITY AND COMMUNITY STANDARDS

All University faculty, students, and staff are expected to know and abide by University policies. Copies of the full text are available in [Essential Policies for the Columbia Community](#) and at the Office of the University Senate, 406 Low Memorial Library.

Students in the School of General Studies are part of a wider intellectual and social community that holds itself to the highest standards of tolerance, respect, integrity, and civility. As members of the Columbia University community, all students are expected to uphold the highest standards of respect, integrity, and civility. These core values are key components of the Columbia University experience and reflect the community's expectations of its students. Students are expected to conduct themselves in an honest, civil, and respectful manner in all aspects of their lives. Students who violate standards of behavior related to academic or behavioral conduct interfere with their ability, and the ability of others, to take advantage of the full complement of University life, and may be subject to disciplinary action. The continuance of each student upon the rolls of the University, the receipt of academic points, graduation, and the conferring of any degree or the granting of any certificate are strictly subject to the disciplinary powers of the University.

Disciplinary authority of the University is vested by the Trustees in the President and Provost and, subject to their reserved powers, in the dean of each faculty. The dean and her staff are given full responsibility for establishing the standards of behavior for all General Studies students beyond the regulations included in the Rules of University Conduct and for defining procedures by which discipline will be administered.

## CIVIL BEHAVIOR AND COMMUNITY STANDARDS

It is expected that in and out of the classroom, on and off campus, each student in the School of General Studies will act in an honest way and will respect the rights of others. Freedom of expression is an essential part of University life, but it does not include intimidation, threats of violence, or the inducement of others to engage in violence or in conduct which harasses others. Conduct which threatens or harasses others because of their race, sex, religion, disability, sexual orientation, gender identity, or for any other reason is unacceptable and will be dealt with severely. For all to benefit from the diversity to be found at Columbia, all must live up to these standards.

Additionally, it is the expectation of the School of General Studies that students will conduct themselves in a respectful and civil manner when working with fellow students, faculty, and university staff. This expectation includes the exercise of patience and the use of a respectful tone in all communications (electronic and verbal) as well as the assumption that fellow members of the community are acting with best intentions.

## HONOR CODE AND HONOR PLEDGE

In 2013 the student councils of the undergraduate schools of Columbia University, on behalf of the whole student body, created an Honor Code to uphold the maintenance of academic integrity as a fundamental and jointly held responsibility for all students. The councils also created an [Honor Pledge](#) (p. 683), which all students recite and affirm when they matriculate as Columbia students.

## ACADEMIC INTEGRITY

It is essential to the academic integrity and vitality of this community that individuals do their own work and properly acknowledge the circumstances, ideas, sources, and assistance upon which that work is based. Academic honesty in class assignments, term papers, examinations, laboratory reports, and computer projects is expected of all students.

Because intellectual integrity is the hallmark of educational institutions, academic dishonesty is one of the most serious offenses that a student can commit at Columbia. It may be punishable by suspension or dismissal from the School of General Studies.

Students who are unsure about the proper presentation of their own independent work should consult with their instructor or academic advisor.

Academic dishonesty includes but is not limited to the following:

1. **Plagiarism:** Failure to cite or otherwise acknowledge ideas or phrases used in any paper, exercise, or project submitted in a course but gained from another source, such as a published text, another person's work, or materials on the Web.
2. **Self-plagiarism:** The submission of one piece of work in more than one course without the explicit permission of the instructors involved.
3. **Misrepresentation of authorship:** The submission of work as one's own which has been prepared by or purchased from another.
4. **Cheating on examinations or tests:** To give or receive assistance from written material, another person, his or her paper, or any other source during an examination or test, to hire or attempt to hire someone to take your exam for you.
5. **Falsification or misrepresentation of information** in coursework or lab work, on any application, petition, or forms submitted to the school.
6. **Fabrication of credentials,** in materials submitted as part of an admissions application or materials submitted to the University for administrative or academic review.
7. **Violating the limits of acceptable collaboration** in coursework set by a faculty member or department.
8. **Removing, hiding, or altering library materials** in order to hinder the research of other students.
9. **Facilitating academic dishonesty** by enabling another to engage in such behavior.
10. **Lying to a faculty member, dean, or advisor** about circumstances related to your academic work or failure to complete academic work.
11. **Generative Artificial Intelligence (AI) tools :** The use of generative Artificial Intelligence (AI) tools to complete an assignment or exam is prohibited, unless expressly permitted/encouraged by the instructor teaching a course.

Ignorance of the School's policy concerning academic dishonesty shall not be a defense in any disciplinary proceedings. The School of General Studies holds each member of the community responsible for understanding these principles and for abiding by them.

## ACADEMIC INTEGRITY IN THE VIRTUAL AND HYBRID CLASS ENVIRONMENT

The Columbia undergraduate classroom, whether real or virtual, is a vital and dynamic space for learning, sustained by the expectation that the class experience is shared only by participants in the course. The free and respectful exchange of ideas is the foundation of teaching and learning and can occur only if all course participants agree as a matter of academic integrity (subject to standard penalties) to respect the guidelines established below.

To support and sustain the class experience, the Columbia undergraduate Committee on Instruction sets forth the following expectations, pertaining both to course materials and to course meetings:

- Course materials, including handouts, readings, slides, and attendant materials must not be broadly shared, distributed, or sold outside the course environment (including on social media) without permission of the instructor. They must be understood as the product of instructors' intellectual work, and treated as their property.
- The contents of class discussion and breakout rooms may not be circulated outside the classroom, in whole or in part, for non-educational purposes (e.g., on social media) or outside the Columbia community. Students are expected to respect the complex dynamics of class discussion and use discretion when repeating the ideas of others outside of the classroom. The audio and visual recordings of class discussion and breakout rooms belong to the course participants and must be understood in the context of the course. This is especially crucial to protect the identity of speakers; in certain circumstances, failure to do so could be a form of bullying and could endanger course participants.
- Recordings of class sessions must not be shared, in whole or in part, with those outside the class. Students are not permitted to record any portion of class sessions without the explicit consent of the instructor.

## THE DEAN'S DISCIPLINE PROCESS

All members of Columbia University's community are expected to conduct themselves in ways that are honest and that respect for the rights of others at all times. Dean's Discipline refers to the process through which General Studies responds to allegations of student academic or behavioral misconduct. The primary aim of the Dean's Discipline process is to educate students about the impact their behavior may have on their own lives as well as on the greater community, and therefore it is not designed as an adversarial or legal process.

The Dean's Discipline process is initiated when the GS team receives a report that a student has allegedly violated University policies or local, State, or Federal laws. Students may be subject to Dean's Discipline for any activity that occurs on or off campus that impinges on the rights of other students and community members.

The Center for Student Success and Intervention (CSSI) is responsible for all disciplinary affairs concerning General Studies students that are not referred to some other office or organization within the University. CSSI uses a "360-degree lens" approach to its work with students, which includes matters of student conduct, intervention case management, and student support initiatives.

General Studies students are expected to familiarize themselves with Standards and Discipline and the

comprehensive list of policies and expectations available on the [Center for Student Success and Intervention website](#).

## DISCIPLINARY CHARGES

Students, faculty members, or Columbia staff who have concerns or complaints about a student's behavior, including issues pertaining to academic integrity, are asked to contact the Dean of Students' Office or the Center for Student Success and Intervention (CSSI) to discuss the concern. Based on the conversation with the complainant, the Dean of Students, in consultation with CSSI, will determine whether or not the complaint warrants an informal meeting with the student or a formal disciplinary hearing. If a formal disciplinary hearing is to be held, the Dean of Students will forward the complaint to CSSI who will in turn contact the student, explain the procedure, and set up an appropriate time and place for the disciplinary hearing.

### Disciplinary Hearing

A disciplinary hearing is held to discuss the allegations with the student and, when necessary, to determine appropriate sanctions. Present at the hearing are the student accused of the inappropriate action, members of the CSSI team who serve as hearing officers. At the discretion of CSSI and/or the respective Dean (GS Dean of Students or Dean for the Postbac Premed Program) a GS hearing officer may also preside over the proceedings. A student's advisor may be asked to participate, usually in academic cases. A support person may also be present at the request of the student, School or Conduct office. On the strength of the evidence and the student's response, the CSSI representative (often in consultation with the GS Dean of Students or Dean of the Postbac Premed Program) will reach a determination and notify the student of their decision after the hearing has concluded.

### Sanctions

For students found guilty of academic dishonesty or misconduct, the sanctions may range from warning to probation, suspension, or dismissal. As the primary objective of CSSI is to ensure that the Dean's Discipline process is educational, every effort is made to refer students to appropriate resources and support services that will help them learn from the experience. In cases of academic dishonesty, the outcome of the hearing is deliberately separate from the decision an instructor shall make concerning how the breach of the academic contract might impact a student's grade. In cases that have been referred to the Dean's Discipline process, a student may not drop or withdraw from the course in question. GS premedical, pre dental, and preveterinary students who have been found to have committed academic impropriety will be ineligible for committee support, until the expiration of the sanction even where the student remains in good standing. Students have the right to appeal the decision of the Dean's Discipline hearing. Appeals must be submitted in writing within the

deadline given in the letter informing the student of the disciplinary action taken. Appeals must be addressed to the Dean of the School.

## CONFIDENTIALITY

In general, under University policy and federal law, information about disciplinary proceedings against a student is confidential and may not be disclosed to others. However, when a GS student is applying to health professional programs with the support of the Prehealth Committee, the violation and sanction may be discussed in the committee letter.

### Sexual Assault, Sexual Harassment, and Gender-based Harassment Policies

For information on the procedures for handling such complaints, please refer to the [Sexual Respect website](#).

If the alleged misconduct involves sexual discrimination, the complaint should be filed with the Associate Provost for Equal Opportunity and Affirmative Action. To report an incident involving sexual assault, sexual harassment, or gender-based harassment, students should complete this [form](#) or contact the [Gender-Based Misconduct Office](#) at 212-854-1717.

## INFORMAL COMPLAINTS CONCERNING MISCONDUCT

Any instructor, officer, staff member, or student who chooses not to put a complaint in writing can instead make an informal complaint. In these cases, the GS advisor usually discusses the matter with the student, though it is possible the advisor will be required to report the complaint to additional campus offices. In these situations, the student may receive a formal warning, which will be noted in the student's educational file, along with any recommendations made to the student. Such warnings will be taken into account if and when similar complaints are made in the future, and a pattern of informal complaints can lead to formal disciplinary action.

## ACADEMIC COMPLAINTS AND GRIEVANCE PROCEDURES

Occasionally students experience dissatisfaction with specific courses or instructors, find themselves in an untenable situation in a course due to an interaction with an instructor, or have an academic grievance. Columbia faculty hold themselves to the highest professional standards. The rights, duties, and obligations are delineated in the University Statutes and in the Faculty Handbook and can be found [online](#).

Consistent with those duties and obligations, conduct that is grievable includes:

- Failure to show appropriate respect in an instructional setting for the rights of others to hold opinions differing from their own
- Misuse of faculty authority to promote a political or social cause within an instructional setting
- Conduct in the classroom or another instructional setting that adversely affects the learning environment

In such cases, students are advised to discuss their grievances with their GS advisors. Depending on the nature of the complaint, a student may be counseled to discuss the matter directly with the instructor, or with the director of undergraduate studies or chair of a given department or program. The School will direct a student to the appropriate office if the University has specific university-wide procedures that govern the matter. Links to those offices, resources and procedures are provided below. Students should raise any concerns not later than thirty days after the end of the semester in which the alleged misconduct took place.

Advisors recognize and respect a student's need for confidentiality when discussing certain kinds of complaints, so students should make sure to bring up any concerns about confidentiality when speaking with their advisors about grievances. While advisors within the Office of the Dean of Students counsel students on appropriate avenues for addressing or resolving their complaints, students should understand that advisors are not in a position to arbitrate grievances. The Ombuds Office is an additional and alternative confidential source available to students to advise on various avenues of redress and can mediate a dispute, if both parties agree. Ombuds officers, however, do not have authority to adjudicate any complaint.

While resolutions are most often reached informally, formal procedures for addressing grievances do exist and in some cases may be the only way to adjudicate a particular complaint. These grievance procedures, available through the Office of the Vice President for Arts and Sciences, are intended to complement, not substitute for, the procedures available in each of the Schools, and they concern a considerably more limited range of issues. They are designed to address only those cases involving professional misconduct by a faculty member of Arts and Sciences in an instructional setting in which there were significant irregularities or errors in applying School procedures. Information on this process can be found on the website of the Office of the Executive Vice President for Arts and Sciences. Resolutions to complaints about academic assessments or grade disputes are usually handled informally (see Grade Appeals and Grade Changes).

The University has alternative procedures to address other specific concerns:

- In situations involving allegations of discrimination and/or harassment, the complainant should consult the [Student Policies and Procedures on Discrimination and Harassment](#).
- In situations involving gender-based and sexual misconduct, students should consult the [Gender-Based Misconduct Policies for Students](#)
- In situations involving concern about scientific or scholarly misconduct, students should consult the [Columbia University Institutional Policy on Misconduct in Research](#)
- The policy on romantic relationships is outlined in the [Consensual Romantic and Sexual Relationship Policies](#).

## OMBUDS OFFICE

Students are also encouraged to seek advice regarding handling academic complaints at the Ombuds Office, a neutral and confidential resource for informal conflict resolution. For further information, contact the Ombuds Office, 660 Schermerhorn Extension; (212) 854-1234; [ombuds@columbia.edu](mailto:ombuds@columbia.edu).

## ACADEMIC REVIEW

At the end of each term, the records of all students enrolled in GS are reviewed to confirm that students are making satisfactory academic progress. Students who have met the stated academic standards are considered to be in good standing, while students who are not able to meet the criteria will receive an academic sanction.

## UNDERGRADUATE

Policies concerning registration, academic progress, adding or dropping courses, grades, incompletes, leaves of absence, withdrawals, and medical leaves are found in the Academic Policies section of the GS website. Students are expected to familiarize themselves with these policies and procedures and to adhere to the requirements, policies, and deadlines published therein. The GS Committee on Academic Standing considers appeals and reviews petitions from students for incompletes, re-enrollment, and exceptions to School policies. For more information, a student can contact their academic advisor.

### Good Academic Standing

To achieve good standing, undergraduates must make satisfactory academic progress and maintain semester and cumulative grade point averages of 2.0 or higher, have no marks of UW (Unofficial Withdrawal) or AR (Administrative Referral), no unauthorized incompletes, and no failing grades. Additional requirements for good standing are detailed under "Academic Standards." Students



who are sanctioned for academic or disciplinary reasons are not in good standing. Only students in good academic and disciplinary standing are eligible to participate in and serve on the board of student organizations and student groups, study away from Columbia, study abroad, and participate in student leadership roles at the school.

### **Failure to Make Academic Progress**

Consequences for failing to make academic progress range from academic warning to dismissal, depending on the degree of academic difficulty and the recurrence of unsatisfactory progress.

Any of the following conditions will prevent Undergraduates within General Studies from making academic progress:

1. Failure to complete the American Language Program (ALP) requirements within the required time frame
2. Failure to achieve a minimum 2.0 semester grade point average
3. Receiving a grade of F
4. Failure to make satisfactory academic progress toward the degree (such as having a major or cumulative grade point average below a 2.0, and/or consistently failing to complete a significant portion of attempted credits).

### **Administrative Warning**

Administrative warnings are issued by the Committee on Academic Standing whenever necessary (e.g., failure to comply with an administrative policy or deadline). Students receive such warnings only once; failure to comply with the warning may lead to more serious consequences (such as registration hold).

### **Academic Warning**

Academic warnings are issued by the Committee on Academic Standing whenever necessary (e.g., failure to declare a major before completing 90 credits toward the degree). Students receive such warnings only once; failure to comply with the warning may lead to probation and registration hold.

### **Academic Probation**

Academic probation is a recognition that prompt and significant change is needed to ensure long-term academic success. Students on probation are able to remain enrolled in classes but are considered outside of good academic standing. Academic probation is noted on a student's record for internal use only, and is not noted on transcripts. Students are placed on probation when any of the following apply: they have not met the conditions of an earlier warning; they have earned a grade of F; they have a term or cumulative GPA below 2.0; they have not successfully completed University Writing after their third completed semester at GS. A student who fails to progress through their required

courses in the American Language Program (ALP) will be placed on Language Probation.

Students who are on academic probation, or returning on probation after a leave of absence, are required to complete a probation contract in consultation with their GS advisors prior to their next term of enrollment. As part of the contract, the student and advisor will identify strategies and resources to support the student in returning to good academic standing.

A student is removed from probation upon achieving a satisfactory academic record the following term based on at least 6 points taken for a letter grade. A second consecutive semester in which a student is unable to meet the requirements for good academic standing may result in further sanctions.

### **Continued Probation**

A student on Academic Probation who makes satisfactory progress in a term that includes fewer than 6 letter graded points may be placed on Continued Probation. This means that the Probation has neither been removed nor elevated to a higher sanction.

### **Academic Suspension**

Academic suspension is a temporary separation from the University resulting from a loss of good academic standing, which is noted on students' transcripts. Students with two consecutive semesters outside of good standing are typically suspended from the School for a period of up to one year. A student may also be suspended after one unsatisfactory semester, especially when more than one condition for academic probation may apply or there is failure to make any academic progress in a given term. A student with multiple unsatisfactory semesters (more than three) or multiple withdrawals (more than three) may also be subject to a period of suspension. Suspension from the School is also a possible consequence of academic dishonesty. Academic Suspensions may be deferred at the discretion of the Committee on Academic Standing, in which case the student may remain enrolled, conditional on their making satisfactory academic progress.

Students suspended for academic reasons may appeal their suspension to the Dean of the School of General Studies within seven days of the official suspension notification.

A student who has been required to withdraw from the School must apply for re-enrollment within three years of the suspension. See the [Leaves of Absence and Withdrawals](#) page for information on re-enrollment.

### **Academic Dismissal**

A student who has previously been suspended and fails to make any academic progress in a given term, who has completed two or more terms with a cumulative GPA below



2.0, who fails to fulfill the conditions of probationary status, or who fails to make immediate satisfactory progress upon returning from academic suspension is subject to dismissal from the School. In some cases, at the discretion of the Committee on Academic Standing, students meeting the aforementioned conditions may receive a Final Probation, allowing them to continue their enrollment conditional on their making satisfactory academic progress.

A student may also be summarily dismissed from the School for academic dishonesty. Ties with GS are permanently severed for students who are dismissed from the School.

Students dismissed for academic or disciplinary reasons may appeal their dismissal to the Dean of the School of General Studies within seven days of the official notification of dismissal.

### **Premedical Undergraduate Academic Review**

Students who have identified themselves as interested in pursuing a premedical track will have their academic performance in premedical coursework reviewed by the Premedical Committee at the end of each term. Students whose grades in premedical coursework indicate academic difficulty will be contacted by their premedical advisors.

## **POSTBAC PREMED**

Acceptance to medical school and to other health professional schools is extremely competitive. According to national statistics compiled by the Association of American Medical Colleges, students admitted to medical school in recent years have a mean grade point average of 3.7 in science courses. For this reason, Postbac Premed students are expected to maintain a competitive GPA and make steady progress in fulfilling the premedical sciences curriculum in the sequence prescribed by the Program.

Policies concerning registration, class attendance, academic progress, adding or dropping courses, grades, incompletes, academic integrity, academic grievances, leaves of absence, withdrawals, and medical leaves are found in the Academic Policies section of the GS website. Students are expected to familiarize themselves with these policies and procedures and to adhere to the requirements, policies, and deadlines published therein.

### **Academic Review**

The Postbaccalaureate Premedical Committee on Academic Standing ("the Premedical Committee") conducts an academic review of all students in the Program at the end of each term, including the summer session, and takes appropriate academic action as required. For the purpose of its review, the Premedical Committee generally does not factor in non-science courses, but does include science elective courses. When a course is taken and repeated at

Columbia, the Premedical Committee will average together both courses to determine the GPA.

At the end of the fall, spring, and summer terms, the Premedical Committee reviews the academic performance of all students, and either the advisor or a representative of the Committee will reach out to any student experiencing academic difficulty to discuss strategies for greater academic success.

All current students undergo formal academic review each semester after having attempted 15 points of required premedical coursework in the Program. There are no categories of probation comparable to those for undergraduates. Because students with GPAs below 2.75 in premedical coursework are highly unlikely to gain admission to medical school, students whose cumulative GPA in the Program falls below 2.75 at any point after having attempted 15 points may be dismissed from the Program. A student may also be dismissed from the Program for academic failure or academic dishonesty. Ties with GS are permanently severed with students who are dismissed from the Program. Students may appeal their dismissal to the Dean of the School of General Studies within one week of the official notification of dismissal.

## **ACADEMIC STANDARDS UNDERGRADUATE**

Undergraduates within the School of General Studies are expected to make reasonable progress in fulfilling degree requirements, which includes:

- Completing the writing requirement within the first year at GS
- Initiating foreign language study no later than the second year at GS, and making steady progress toward this requirement in each subsequent semester
- Completing at least one core requirement each semester
- Declaring a major before completing 90 points toward the degree
- Making progress each semester toward the major, once declared
- Maintaining a semester and cumulative grade point average of at least 2.0

GS academic advisors help students plan their schedules so that these requirements are met within the expected time frame.

## **POSTBAC PREMED**

The academic standards for students in the Postbaccalaureate Premedical Program include:

- Maintenance of a cumulative grade point average of at least 2.75

- Steady progress in the satisfaction of preprofessional prerequisite course requirements with grades of C or better

## AP CREDIT

**\*Language Courses:** Courses used toward AP credit in language must be for at least 3 points of credit and be taught in that language. Courses taught in English may not be used for AP credit in language.

Subject	AP Score	Advanced Credit	Requirement or Placement Status
Biology	5	3	Placement determined by department*
Chemistry	4 or 5	3	Requires completion of CHEM UN1604 with a grade of C or better
Chemistry	4 or 5	6	Requires completion of CHEM UN2045 - CHEM UN2046 with a grade of C or better

\* See Department for Placement Status

Subject	AP Score	Advanced Credit	Requirement or Placement Status
Computer Science A	4 or 5	3	Exemption from COMS W1004
Computer Science AB	4 or 5	3	Exemption from COMS W1004

**Note:** Students may receive credit for only one computer science sequence.

Subject	AP Score	Advanced Credit	Requirement or Placement Status
Economics	4 and 5	4	Exemption from ECON UN1105

**Note:** Tests must be taken in both microeconomics and macroeconomics, with a score of 5 on one test and at least a 4 on the other.

Subject	AP Score	Advanced Credit	Requirement or Placement Status
English Language and Composition	5	3	No exemption
English Literature and Composition	5	3	No exemption

French Language	5	3	Satisfies foreign language requirement*
	4	0	Satisfies foreign language requirement
French Literature	5	3	Satisfies foreign language requirement*
	4	0	Satisfies foreign language requirement
German Language	5	3	Satisfies foreign language requirement*
	4	0	Satisfies foreign language requirement
Government and Politics: United States	5	3	Exemption from POLS UN1201
Government and Politics: Comparative	5	3	Exemption from POLS UN1201
History: United States	5	3	No exemption
History: European	5	3	No exemption
Italian Literature	4	0	Satisfies foreign language requirement
	4	0	Satisfies foreign language requirement*
Latin: Vergil	5	3	Satisfies foreign language requirement
	4	0	Satisfies foreign language requirement
Latin: Literature	5	3	Satisfies foreign language requirement
	4	0	Satisfies foreign language requirement
Mathematics Calculus AB	4 or 5	3	Requires completion of MATH UN1102 or MATH UN1201 with a grade of C or better (No AP credit is awarded if MATH UN1101 is taken).
Mathematics Calculus BC	4	3	Requires completion of MATH UN1102 OR MATH UN1201 (No AP credit is awarded if MATH UN1101 is taken).

5	6	Requires completion of MATH UN1201 OR MATH UN1205 OR MATH UN1207 (No AP credit is awarded if MATH UN1101 or MATH UN1102 is taken).
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\* Credit awarded upon successful completion of a 3000-level (or higher) course with a grade of B or higher.

**Note:** Students may receive credit for only one calculus sequence.

Subject	AP Score	Advanced Credit	Requirement or Placement Status
Music: Theory	5	3	Exemption from MUSI UN1002; Exemption from MUSI UN2318-MUSI UN2319 determined by departmental exam
Music: Theory	4	3	No exemption
Physics 1 AND 2	4 or 5	6	No exemption from science requirement
Physics C/ MECH	4 or 5	3	No exemption from science requirement
Physics C/ E&M	4 or 5	3	No exemption from science requirement
Psychology	5	0	Exemption from PSYC UN1001 The Science of Psychology

**Note:** Students may earn a maximum of 6 points in physics.

Subject	AP Score	Advanced Credit	Requirement or Placement Status
Spanish: Language	5	3	Satisfies foreign language requirement*
Spanish: Language	4	0	Satisfies foreign language requirement
Spanish: Literature	5	3	Satisfies foreign language requirement*
Spanish: Literature	4	0	Satisfies foreign language requirement

Statistics	5	3	Students required to take STAT UN1111 or STAT UN1001 for their major should check with their major adviser to determine if this credit provides exemption from these courses
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\* Credit awarded upon successful completion of a 3000-level (or higher) course with a grade of B or higher.

## ATHLETICS AND ACADEMIC ABSENCE

It is Columbia University policy that student-athletes who miss classes and/or exams as a result of representing the University at an approved athletics contest may be permitted to make up the work and/or take the exam at another time or location.

To be accommodated in this way, students must first gain the approval of the team Head Coach and their academic advisor in the GS Dean of Students Office. Then, students can work with their instructor(s) to complete the Intercollegiate Athletics Academic Absence Notification form, detailing arrangements to make up missed work or exams.

### Intercollegiate Athletics Academic Absence Notification Form

Student-athletes will then submit the Intercollegiate Athletics Academic Absence Notification form to their academic advisor in the GS Dean of Students Office and upload it to the Columbia Athletics Student-Athlete Portal.

## ATTENDANCE

Students are expected to attend all classes including discussion sections and laboratory sessions for each course.

In general, absenteeism from a course will lead to a lower grade and may even result in failure. Students are held accountable for absences owing to late enrollment. Students who must miss class due to religious holidays should inform their instructors in advance and make appropriate arrangements to make up missed work. (See below for the University's policy on religious holidays.)

When an instructor judges a student's absences to be excessive, the instructor may report this to the Office of the Dean of Students for appropriate action.

### Absences or Falling Behind in Class

Students who find themselves unable to attend classes or complete academic work at any time during the semester should contact their GS academic advisors immediately. In consultation with the advisor and the instructor, a student may be able to make arrangements for extensions on work within the timeframe of the semester or, under more serious circumstances, may be advised to withdraw from a course or from the semester. Students who miss more than two weeks of classes are urged to give serious consideration to withdrawing from the semester in progress.

### Religious Holidays

It is the policy of the University to respect its members' religious beliefs. In compliance with New York State law, no student may be penalized for absences due to religious beliefs.

Students are required to inform their instructors of their plans to observe a religious holiday at the beginning of the semester, so that instructor and student have plenty of time to plan for any necessary alternative arrangements. It is important for students to understand that, no matter what absences might be accommodated, they will still be responsible for all course requirements, which may include in-class participation or other assignments that will need to be made up in some alternative way.

If a suitable arrangement cannot be made between the student and the instructor, students should consult the appropriate department chair, dean or director. If an additional appeal is needed, it may be taken to the Provost whose determination is final.

Dates and definitions of religious holidays can be found on the [Interfaith Calendar](#).

Any instructor who would like guidance on a particular religious holiday or form of observance may seek guidance from [University Chaplain Jewell Davis](#) ([chaplain@columbia.edu](mailto:chaplain@columbia.edu)) or [Dean of Religious Life Ian Rottenberg](#) ([ir2379@columbia.edu](mailto:ir2379@columbia.edu)).

Any instructor who has concerns regarding the academic implications of a student's religious observance should contact the GS Office of Academic Affairs at [gsacademicaffairs@columbia.edu](mailto:gsacademicaffairs@columbia.edu).

## CLASS STANDING

Class status for undergraduates within the School of General Studies is based on the satisfactory completion of the following number of points:

Class Standing	Points
Sophomore	24

Junior	56
Senior	90

## DROPPING COURSES

Before dropping a course, undergraduate and Postbac Premed students should consult with their GS academic advisors. Dropping courses not only affects a student's academic progress, but may also have consequences for financial aid, housing eligibility, visa status, and/or health insurance.

A student has three opportunities within a semester to officially drop or withdraw from a course, including the change of program period, the late drop period, and the withdrawal period. Different consequences apply at each stage. There is no refund of tuition for individual courses dropped after the last day of the change of program period. In no case may a student withdraw from a course later than the Monday before the last day of classes for the semester, unless withdrawing from an entire term. Students should consult the GS Academic Calendar for the exact dates of each deadline. Students are responsible for following the appropriate add/drop process by the relevant deadline. Registration changes that cannot be completed via SSOL can be requested via the Registration Adjustment Form (RAF), which is available in the [Columbia GS Student Success Portal](#).

### Postbac Premed and undergraduate premed

**students:** Dropping a course could compromise eligibility for committee support for the imminent application cycle.

### PLEASE NOTE:

- Ceasing to attend classes or simply notifying the instructor does not constitute dropping a course.
- Students dropping the last or only class in which they are enrolled in a given semester should notify their advisors that they would like to withdraw from the term.
- Joint Program students cannot drop their full course load at Columbia (even if it is only one course) without special permission jointly approved by their respective GS and JTS advisors.
- In cases that have been referred for disciplinary action through the Dean's Discipline process, a student may not drop or withdraw from the course in question without a successful petition to the committee on academic standing.

### Dropping a Course During the Change of Program Period

A student may drop a course within the first two weeks of classes, which is the officially designated **change of program period**. Courses may be dropped online through [SSOL](#). Courses dropped within this period do not appear



on a student's permanent transcript and incur no tuition charges. Students dropping their entire course load will not be allowed to do so online but must consult with their advisors about the semester withdrawal process.

## Dropping a Course After the Change of Program Period

After the close of the change of program period, students may drop a course by the **late drop deadline**, which falls after the fifth week of classes. Courses dropped after the change of program date, but prior to the late drop deadline, will not appear on a student's permanent transcript and students will be charged full tuition for the course. Students must submit a course drop request via SSOL in order to receive advisor approval. Once they have received approval via SSOL, they must complete the course drop request in SSOL by the specified deadline to finalize processing.

## Withdrawing from a Course After the Late Drop Deadline

After the late drop deadline, students may drop from a course by the **final withdrawal deadline**. Courses dropped after the late drop deadline, and by the Monday prior to the last day of classes each semester, will be recorded on the transcript with the notation "W" (withdrawal). The W is a permanent, GPA-neutral mark and will remain on the transcript even if the student repeats the course. Students are charged full tuition for individual courses from which they withdraw. The Registration Adjustment Form (RAF) must be completed by the student and approved by his or her GS advisor by the specified final withdrawal deadline. The RAF can be found in the Student Success Portal under "Forms."

**Note:** If a student has submitted the final assignment for a course (final exam, final paper, or final project) the course is considered complete and it is no longer possible to withdraw

information or reverse a previous request to restrict access. For additional information regarding access to student records, please consult [Essential Policies for the Columbia Community](#).

Questions about the University's interpretation of the FERPA guidelines should be referred to the University's General Counsel in 412 Low Library. For more information on FERPA, consult the [Department of Education website](#).

**Note:** Educational files maintained by the School of General Studies are archived for five years after a student has graduated. Files of students who withdrew or took a leave from GS are accessible for up to ten years from the last semester of attendance. In all cases, individual requests for student files needing to be recalled from archives should be made directly to the student's advisor. Such files will be ready for review within three weeks of the initial request.

## ELIGIBILITY FOR ATHLETICS

A GS student in good standing pursuing the undergraduate program or a combined program toward a first degree may be eligible for intercollegiate athletics.

Eligibility requires that a student be a candidate for a bachelor's degree and have attended the University for no more than eight terms. The student must also be registered for at least 12 points, be in good standing with the School, and make appropriate progress toward the degree as defined by the NCAA, the Ivy League, and Columbia University.

These criteria are monitored by the Committee on Athletic Eligibility and certified by the Office of the Registrar. Furthermore, students must comply with any NCAA or Ivy League requirements that may apply.

Questions about eligibility should be referred to the appropriate academic advisor or the compliance office in the Department of Physical Education and Intercollegiate Athletics.

### Academic Credit for Athletics Participation

Students are eligible to earn 1 point of credit in Physical Education for participation in intercollegiate athletics. **Please note:** students who opt to earn this credit will be charged standard tuition and fees.

## EDUCATIONAL RECORDS

GS, in conjunction with the Registrar's Office, maintains the educational records of students who matriculate at the School. The maintenance and oversight of these records comply with the Federal Family Educational Rights and Privacy Act of 1974 (FERPA), which regulates a wide range of privacy-related activities including management of student records maintained by the University, regulations regarding who has access to student records, and for what purposes access to student records is granted. The Act guarantees students access to their records and allows them to restrict such access to others. Students wishing access to their records must complete a request form available from the Registrar's Office; similar request forms are available from the Registrar's Office if a student wishes to withhold



# ENROLLMENT AND COURSELOAD

## UNDERGRADUATE SUMMER ENROLLMENT

Participation in the summer term is optional. Students who choose not to enroll in summer are still considered current students and do not need to request a leave of absence. Students can enroll in up to 15 points total during the summer, including no more than 9 points in a six- or seven-week session. Requests to exceed the 15-point cap, or the 9-point cap per session, must be submitted to the Committee on Academic Standing. Exceptions will be granted only in rare and unavoidable circumstances.

Summer courses are administered by the Columbia University School of Professional Studies. Students should consult with their academic advisors for course selection.

## POSTBAC PREMED

While there is no academic or program requirement for full-time enrollment, some students may need to maintain full-time status because of visa requirements, or to remain eligible for University Housing.

## FULL-TIME ENROLLMENT

### Option One

Full-time status in the Postbaccalaureate Premedical Program is defined as registration for 12 or more points per term. This enrollment status is required for all international students.

### Certification

Certification for this option is provided by the University Registrar.

### Option Two

A postbac student who is registered for fewer than 12 points may be regarded as equivalent to full-time if enrolled in at least 9 points and participating in unpaid, volunteer work in a health care setting for at least three hours per week and 42 hours per semester. If the position is paid or a stipend is awarded, students will not qualify for full-time status. This option is not available to international students.

### Certification

Certification is provided by the Postbaccalaureate Premedical Office. In order to receive a certification letter from the Postbac Premed Office, students must provide a letter to their Postbac Premed advisor from their volunteer supervisor stating that they are working in a volunteer and unpaid capacity for a minimum of three hours per week, with a minimum commitment of 42 hours during the 14-week

semester. This letter must be on letterhead, dated, and signed by the volunteer supervisor. Students should allow one week between the submission of the letter from their volunteer supervisor and the availability of a letter of certification from the Postbac Premed Office.

## INTERNATIONAL STUDENT ENROLLMENT: APPLICATION/ GLIDE YEAR

During the application year, international students with F-1 (or J-1) non-immigrant status who wish to remain in the United States must either be enrolled in a program of full-time study or be on optional practical training (OPT) if F-1 status or academic training (AT) if J-1 status, authorized by the United States Citizenship and Immigration Services (USCIS).

Also, unless they are enrolled in a full-time program of study at Columbia, international students will be enrolled in maintenance of status during the application year, and therefore, whether or not they are physically in the U.S., will be obligated to acquire student health insurance.

In planning the application year, it is advisable for students with F-1 or J-1 status to consult with the International Students and Scholars Office (ISSO), as well as with their premedical advisors, early in their final semester of study to ensure compliance with U.S. immigration laws.

## SUMMER ENROLLMENT

### Preparatory Courses

Some Postbac Premed students may need to begin their studies in the summer to prepare for fall courses in mathematics, chemistry, and/or physics. Some preparatory coursework is also offered throughout the academic year.

With few exceptions, the only summer session courses admitted students will be allowed to take are Preparation for College Chemistry, Basic Physics, English, Psychology, or a mathematics course. Please see the grading policy for Preparation for College Chemistry, Basic Physics, Basic Math, and College Algebra & Analytic Geometry.

### Required Courses

Premedical students are generally advised against taking the required science courses in the summer in the six-week course format (with the exceptions of preparatory courses, math courses, and lab courses). The reason for this recommendation is that the compressed summer term schedule is extremely demanding for even the most well-prepared students. For most premedical students, science courses offered in the twelve-week format (Physics II, General Chemistry II) are more appropriate. Premedical students must have the approval of their premed advisors prior to enrolling in six-week summer term science courses.

## Registration for Summer Courses

Summer courses are administered by the Columbia University School of Professional Studies. For courses offered during the summer semester that fulfill requirements of the Postbac Premed Program, please visit the Premed section of the SPS website.

## GRADES

All grades are based solely on work completed during the term a course is offered, except in the case of a grade issued to replace an incomplete, as authorized by the General Studies Committee on Academic Standing or the Postbac Premedical Committee.

### Letter Grades

The letter grading system within Columbia's undergraduate colleges is as follows: A, excellent; B, good; C, fair; D, poor but passing; F, failure (a final grade, not subject to reexamination). Plus and minus grades are also used, except with grades of D or F. No work with a grade of D will be credited toward the major unless otherwise noted by a department in its official policies. For Postbac Premed students and undergraduate prehealth students, grades in required preprofessional courses below C do not satisfy those requirements.

### Grade Point Average (GPA)

The Registrar calculates semester as well as cumulative grade point averages based on the number of points per class. The GPA is used to assess a student's academic progress as well as to determine a student's eligibility for certain honors such as the Dean's List or the Honor Society. The GPA is printed on all official Columbia transcripts. GPAs are computed on the following scale:

A+ = 4.33	B+ = 3.33	C+ = 2.33	D = 1.00
A = 4.00	B = 3.00	C = 2.00	F = 0.00
A- = 3.67	B- = 2.67	C- = 1.67	

When the Registrar calculates the GPA, courses are weighted by the number of points they carry. Courses that cannot be credited toward the degree are not included in the GPA. For repeated courses, only the grade earned for the first attempt will be calculated into the grade point average. In cases where the first attempt was an F, both grades will be factored into the grade point average.

**Note for Postbac Premed students:** Where a Postbac has repeated a required course, the Postbac Premed Program averages in both attempts when it conducts its academic review. Courses outside math and science are excluded from consideration for the purpose of academic review. Postbacs should consult the bulletin sections on [Academic Review](#) (p. 672) for a statement about GPA requirements for

continued enrollment in the Postbac Program. Similarly, the sections on the requirements for the [Certificate in the Premedical Sciences](#) (p. 667) and eligibility requirements for linkage all include statements concerning the GPA.

### Grade Appeals and Grade Changes

Assessment of a student's performance in a course is solely at the instructor's discretion. Instructors have significant autonomy in determining their methods of instruction, their learning goals, and their standards for grading. Each instructor is both an expert in their field and an individual, and some variation from one instructor to another is to be expected. Students sometimes feel disappointed if a final grade for a course is lower than they'd hoped for or expected; however, that is not itself a cause for a grade appeal. If a student believes that the grade does not appropriately reflect their performance in a course, they should first consider talking with the instructor to better understand how the grade was determined and to discuss ways to improve their work in that discipline. It can also be helpful for the student to discuss the specific situation, and general questions about grading, with their academic advisor.

Students with concerns about a final course grade should follow these steps:

#### Step 1

The student should talk with the instructor about how learning was assessed and how their grade was determined. In many cases, this information is sufficient to clarify and conclude the matter. If the student believes that the information provided by the instructor reflects an error of some kind, the student should point out the perceived error to the instructor. If the student and instructor cannot reach agreement about whether an error has occurred, then the student can pursue further discussions.

#### Step 2

After speaking with the instructor, a student who wishes to continue to seek redress for a perceived error can consult with the Director of Undergraduate Studies (DUS) in the relevant academic department or program. The DUS is an expert in the discipline and supports the academic experience of undergraduate students in the courses offered in the department or program. If a student has a concern about a foreign language class, it may be better to consult with the Director of Language Program (DLP) of that academic department or language program. If there is no DUS or DLP for the particular program offering the course in question, the student may consult the Chair of the academic department.

If, after reviewing the matter, the DUS (or DLP or Chair) determines that no error has occurred in the instructor's determination of the final grade, the matter shall be considered closed. Again, a student may be disappointed with the outcome of the consultation, but the DUS (or

DLP or Chair) is the authority in matters of undergraduate instruction in their department or program.

### Step 3

If a student continues to have concerns, they can consult the GS Dean of Academic Affairs. Students should understand that the dean recognizes and supports the principle of academic freedom and faculty authority in matters of instruction and grading. Therefore, the dean is not in a position to change a grade or to second-guess the way that student work has been evaluated. Additionally, it is quite rare for the dean to raise further questions once the DUS (or DLP or Chair) has assessed the situation and made a determination. The dean will be ready to hear of any possible errors, to help determine if a situation does warrant further conversation with an instructor or a DUS (or DLP or Chair), and/or to talk with a student and provide help in understanding and accepting the outcome of the grade appeal.

After meeting with the student, the dean will determine if any further review with the faculty would be appropriate and necessary. If the dean determines that no further consultations are warranted, the decision will be final. If the dean does consult with the DUS (or DLP or Chair) and confirms that no procedural breach or error has occurred and that the final grade was appropriate within the instructor's course, the student will be informed and the decision will be final.

The statute of limitations on final grade appeals is three months from the end of the semester in which the course was taken. Grade appeals after this time frame will not be considered.

## PASS/D/FAIL OPTION

The purpose of the Pass/D/Fail (P/D/F) option is to encourage undergraduate students to take courses outside their fields of specialization without concern for the grade. Undergraduate students may choose the P/D/F option for only one course per term, including the summer term. Courses given only on a P/F basis will not count toward this limit. Apart from those courses offered only on a P/F basis, Postbac Premed students cannot choose the P/D/F option for math and science courses, with the sole exception of MATH UN1003 (College Algebra & Analytic Geometry) and BIOL UN1004 (Foundations of Biology).

### Electing a Course for Pass/D/Fail

Undergraduates within the School of General Studies may elect the Pass/D/Fail (P/D/F) option for no more than one course per semester.

- The grading option for students who register for a course P/D/F when they have exceeded the number of allowable P/D/F will revert to the letter-grade option.

- When the P/D/F option is elected for a particular course, grades of C- or above are converted to a Pass.
- A P/D/F cannot be elected after a final grade has been posted.
- When a GS student takes a course in a Columbia graduate or professional school the policies of that school with regard to P/D/F grading will be enforced.

The P/D/F option cannot be elected for the following specific courses, and/or courses administered by the Committee on the Core, whether or not they are taken to fulfill GS core requirements:

- Art Humanities: UN1121
- Contemporary Civilization: CC/GS1101-CC/GS1102
- Language courses (rare exceptions may apply; consult with your advisor)
- Foundations of Science: UN1212
- Frontiers of Science: CC1000
- Literature Humanities: CC/GS1001-CC/GS1002
- Music Humanities: UN1123
- University Writing: ENGL GS1010 or ENGL GS1014

When considering the P/D/F option, students should be aware that courses with the mark of P:

- cannot be used to satisfy a GS Core requirement;
- cannot be used to satisfy a major or concentration requirement, including related courses, unless otherwise noted by the department in its written policies;
- cannot be used to satisfy science or math courses in fulfillment of premedical requirements;
- are not taken into account when calculating a student's GPA; the grades of D and F will be so used.

Students may elect the P/D/F option during registration. Students may change a P/D/F course to a letter-graded course or a letter-graded course to a P/D/F course by clicking the relevant link in SSOL by the eleventh week of the term. The P/D/F deadline for each term is listed in the GS Academic Calendar, and students must elect the option by that deadline for courses taken during that term. A P/D/F cannot be elected after a final grade has been posted.

The P/D/F option, including the opportunity to uncover a Pass, is only available to undergraduate students in the School of General Studies and not to students in the Postbaccalaureate Premedical Program.

Due to circumstances considered to be unusually disruptive to conditions for student learning, the CC-GS Committee on Instruction approved the following exceptions to policies regarding majors and concentrations and special concentrations:

In **Spring 2020**, all courses in the University were graded on a pass/fail basis. *Any* course in this term earning a grade

of "P" can be applied to a major, concentration, special concentration, or core course.

In **Fall 2020**, students were permitted to use the Pass/D/Fail grading option one time without restriction — i.e., *one* course in this term earning a grade of "P" can be applied to a major, concentration, special concentration, or core course.

Standard P/D/F grading rules apply for summer semesters. For **Summer 2020** and **Summer 2021**, like all other summer semesters, P/D/F grading may not be applied for major, concentration, or core courses.

In **Spring 2021**, students were permitted to use the Pass/D/Fail grading option **for one class without restriction** -- i.e., one course in this term earning a grade of "P" can be applied to a major, concentration, special concentration, or core course.

In **Fall 2021**, students were permitted to use the Pass/D/Fail grading option **for one class without restriction** -- i.e., one course in this term earning a grade of "P" can be applied to a major, concentration, or special concentration, or core course.

In **Spring 2022, Fall 2022, Spring 2023, and Fall 2023**, typical policies regarding the Pass/D/Fail option remained in place. Students could use the Pass/D/Fail option for a maximum of one class, and the Pass/D/Fail option could not be used for a class required for a major, concentration, or special concentration, and could not be used for a class required for the Core Curriculum.

- **Special Note:** If students were enrolled in Fall 2021 in a course that could not be concluded because of the graduate student strike, and were required to do work for the course assigned after the conclusion of the Fall semester (i.e., any time after January 2), the students could choose to declare retroactively the Pass/D/Fail option for the course—if they had not already used the Pass/D/Fail option for another Fall course. The policies for the Pass/D/Fail option that were determined for Fall 2021, as noted in the School of General Studies Bulletin, apply to any Fall 2021 course, regardless of when the declaration is made.

In **Spring 2024**, students were permitted to elect the Pass/D/Fail option for up to two courses without restriction (not applicable to Postbac Premed Students) i.e., two courses in this term earning a grade of "P" can be applied to a major, concentration, special concentration, elective, or a Core Curriculum course. Students graduating in May 2024 had until June 1, 2024, to elect the Pass/D/Fail option for a Spring 2024 class, while the deadline for continuing students to elect the Pass/D/Fail option for a Spring 2024 course was extended to the end of the change-of-program period for the Fall 2024 semester (September 13, 2024).

## Uncovering the Mark of Pass

Students are allowed to uncover a grade of Pass within two weeks of the start of the semester immediately following the term in which the grade of Pass was received. Students have until the end of the change of program period of the following term to uncover the grade of Pass in SSOL. In all cases, GS students must finalize such requests by the time they apply for graduation. GS seniors graduating in May who wish to uncover the mark of Pass for their spring-term courses must do so by the Friday of Commencement week.

An uncovered grade may be used to satisfy a core requirement.

In consultation with the major department, an uncovered grade may be used to satisfy a major requirement.

**Note:** Once a student has chosen to uncover a grade, the Pass cannot be reinstated.

## WITHDRAWALS AND ADMINISTRATIVE REFERRAL

### Withdrawal (W)

Students are not permitted to have a course deleted from their academic record after the late drop deadline (the fifth week of classes). If a student withdraws from a course after the late drop deadline, and no later than the Monday prior to the last day of classes each semester, the transcript will show a mark of W for that course. This is a permanent, GPA-neutral mark and will remain on the transcript even if the student repeats the course. Students may not drop or withdraw from any course after this deadline.

### Administrative Referral (AR)

The mark of AR (Administrative Referral) is a temporary grade awarded by a faculty member when a final letter grade cannot be assigned. AR is not a permanent grade.

In the event that the student has been approved through petition to the General Studies Committee on Academic Standing or (for postbacs) to the Premedical Committee to receive an Incomplete in a course, the mark of AR will be submitted pending completion of course requirements. Please note that ultimately the assignment of the final letter grade is at the instructor's discretion. **Note:** Postbac Premed students and undergraduate prehealth students are ineligible for committee support at least until final letter grades are submitted to replace any AR marks in required preprofessional courses.

## INCOMPLETE

Students must complete all coursework by the last day of exams in a given semester. For students who cannot complete their coursework or are unable to take a final examination, an incomplete for a course in progress may be granted by the General Studies Committee on



Academic Standing (CAS) or the Premedical Committee. The incomplete is indicated through a temporary grade of AR, which is replaced by a permanent grade issued by the faculty member once outstanding work is completed. For more information, see [Midterm and Final Exams](#).

# GRADUATION

## ELIGIBILITY AND APPLICATION FOR DIPLOMAS AND CERTIFICATES

Bachelor's degrees and certificates are conferred [three](#) times a year: [February](#), [May](#), and [October](#). Students must file an application for the degree or certificate in consultation with their advisor by the deadlines specified below.

Deadline	Graduation Date
November 1	for degrees conferred in February
March 15	for degrees conferred in May
March 15	for degrees conferred in October (participating in May ceremonies)
August 1	for degrees conferred in October (not participating in May ceremonies)

## APPLY FOR GRADUATION

To apply for graduation, students must submit the appropriate application form in the Student Success Portal. Additionally, students should meet with their GS or Postbac advisor no later than three months prior to the anticipated completion of the degree or certificate. Students who are unable to earn the degree or certificate by the conferral date for which they have applied must file another application for a later conferral date.

October candidates who wish to participate in the preceding May ceremony must discuss their plans with their advising dean.

Students enrolled in the Dual and Joint Degrees Programs will be allowed to graduate when they have completed the requirements for both degrees.

## Degree Ceremonies

A University-wide commencement ceremony is held each May. Before Columbia Commencement, GS hosts its own graduation ceremony known as Class Day, during which each student receives a certificate from the President of the University and the Dean of the School of General Studies. Students who received their degrees in February, May, or October of a given year are entitled to participate in that year's Class Day and Commencement ceremonies.

While Postbac Premed Students do not participate in Commencement, upon completion of their studies, they are invited to participate in Postbac Class Day, held annually in May.

## Diplomas and Certificates

There is no charge for the preparation and conferral of an original diploma or certificate. The name of the graduating student will be printed exactly as it appears on his or her transcript. Students are responsible for checking their transcripts and reporting any errors to the Registrar in 205 Kent before they file their degree or certificate applications. A student who wishes to change his or her name officially must submit the Name Change Affidavit available from the Registrar's Office. The affidavit must be notarized and filed by the application deadline. If a diploma or certificate is lost or damaged, there will be a charge of \$100 for its replacement. Note that replacement diplomas or certificates carry the signatures of current University officials.

Columbia diplomas and certificates will be produced and mailed within three weeks after [Commencement](#), and are mailed to the student's Diploma Address, as listed in [SSOL](#). Students should confirm their address information on their SSOL profile. If a student's address needs to be updated, it should be done through SSOL **before the Monday prior to Commencement**

Please be sure to complete the Diploma Address option. Diplomas cannot be mailed to students who do not have a Diploma Address listed in SSOL.

Diplomas for February and October graduates will be mailed to the address on file in [SSOL](#) up to two months after the degree conferral date.

**Note:** Graduates who have not resolved any financial or library holds preventing the release of their diplomas must proactively notify the Registrar's Office that their last hold has been removed. In the case of holds preventing release, the Registrar's Office will not mail student diplomas without notification that all hold(s) have been removed.

## CONTACT

Information and applications for replacement diplomas and certificates can be found on the [Registrar's website](#).

# HONOR PLEDGE

## UNDERGRADUATE

The General Studies Student Council, on behalf of the whole student body, has resolved that maintaining academic integrity is the preserve of all members of our intellectual community—including and especially students. As a



consequence, all General Studies students make the following pledge at Orientation:

We, the undergraduate students of Columbia University, hereby pledge to value the integrity of our ideas and the ideas of others by honestly presenting our work, respecting authorship, and striving not simply for answers but for understanding in the pursuit of our common scholastic goals. In this way, we seek to build an academic community governed by our collective efforts, diligence, and Code of Honor.

In addition, all General Studies students are committed to the following honor code:

I affirm that I will not plagiarize, use unauthorized materials, or give or receive illegitimate help on assignments, papers, or examinations. I will also uphold equity and honesty in the evaluation of my work and the work of others. I do so to sustain a community built around this Code of Honor.

## POSTBAC PREMED

The Postbac Premedical Student Council, on behalf of the postbac student body, has resolved that maintaining academic integrity is the responsibility of all members of our intellectual community—including and especially students. As a consequence, all Postbac Premed students make the following pledge at Orientation:

We, the students of Columbia's Postbaccalaureate Premedical Program, hereby pledge to ensure the integrity of our ideas and the ideas of others by honestly presenting our work, respecting authorship, and striving not simply for answers but for understanding in the pursuit of our scholastic and professional goals.

Through commitment, diligence, vigilance, and adherence to the honor code, we aspire to build an academic community at Columbia and a foundation for our future work as guardians of the health and well-being of the individual members of society.

In addition, all Postbac Premed students committed themselves to the following honor code:

I affirm that I will not plagiarize, use unauthorized materials, or give or receive illegitimate help on assignments, papers, or examinations. I will also uphold equity and honesty in the evaluation of my work and the work of others. I do so to sustain a community built around this Code of Honor and in recognition of my future responsibilities as a health care provider.

## INTERNSHIP CREDIT

Internships can be a valuable experience for students seeking exposure to a range of professional cultures and experiences. However, Columbia College, the School

of General Studies, and the Fu Foundation School of Engineering and Applied Science—as at our peer institutions nationally—do not offer registration credit (R credit) on the academic transcript for internships. Companies are expected to appropriately compensate students for work performed during an internship. The Columbia University Center for Career Education (CCE) has posted some helpful [guidelines and procedures](#) for employers regarding unpaid internships.

Support will be maintained for student participation in internships for which students are properly compensated (when required), and letters of support for internships will be provided upon request.

Visit CCE to learn more about [job and internship opportunities](#).

## LEAVES OF ABSENCE AND WITHDRAWALS

Balancing academic, personal, and professional responsibilities can be a significant undertaking. Circumstances both good and bad can arise that are outside of a student's control and that may impact academic performance and/or progress. In such cases, taking a leave of absence or withdrawing from a semester can have a salutary effect. Students who wish to withdraw from a term in progress, cancel registration for an upcoming term for which they have already registered, or take a planned leave of absence must consult with their respective academic advisors and submit a leave of absence / withdrawal form. Failure to do so in a timely fashion can have financial as well as academic consequences.

Depending on the date of a student's withdrawal, loan funds already received by the student may need to be returned to the lender. Federal grant awards such as the FSEOG, Pell Grant, and GS scholarships may also be decreased. Students who withdraw should contact the [GS Office of Educational Financing](#) for more information about possible required adjustments to their federal and/or institutional aid, or if they have questions about their student account.

Leaves of absence for up to three years from the last completed term are granted to undergraduate students who anticipate returning to Columbia to complete their studies. Leaves of absence for up to one year are granted to Postbac Premed students who anticipate returning to Columbia to complete their studies. Students who intend to take a leave of absence must submit a Leave of Absence/ Full Withdrawal Form via the Forms tab on the [GS Student Success Portal](#). Failure to follow this procedure can have academic as well as financial consequences and may lead to being dropped from the rolls of the School.

When requesting a leave or withdrawing from GS, international students must also notify the International Students & Scholars Office (ISSO) immediately.

To re-enroll after a leave of absence, students must complete the re-enrollment process by the required deadline. **Note:** An undergraduate student whose absence from the School of General Studies exceeds three years from their last completed term must formally reapply to the School through the GS Office of Admissions. A Postbac Premed student whose absence from the Postbac Premed Program exceeds one year must formally reapply to the Program through the GS Office of Admissions.

## LEAVE OF ABSENCE GUIDELINES

**All correspondence from the University sent to students via U.S. mail goes to the address on file with Student Information Services which may be viewed via Student Services Online (SSOL). Students are responsible for making changes to that address by following the instructions on SSOL for a change of address.**

## Financial Aid

- Students who borrowed under a federal or Columbia student loan program will need to complete an Exit Loan Counseling Interview, and will be notified by email of their exit counseling responsibilities.
- Students who were awarded any federal financial aid (Title IV aid) that has not disbursed to their student account and wish to know if they are eligible for a late disbursement of this aid must contact a counselor at the GS Office of Educational Financing.
- Students will receive an email communication from the GS Office of Educational Financing which will identify any required revisions to their financial aid per federal regulations and/or GS policy.
- It is recommended that students contact the GS Office of Educational Financing in March for information regarding forms and deadlines for financial aid applications for the upcoming academic year.
- Students with a credit on their student account should contact the GS Office of Educational Financing to request a refund. Students with financial aid must wait until their aid has been recalculated to [request a refund](#).
- Depending on the date of withdrawal, the student's tuition and other charges will be recalculated based on the Withdrawal Schedule established by the Trustees and published on the [University Registrar website](#).

## Health Insurance

Students who withdraw from a term in progress will no longer be eligible to receive Student Health insurance. Students withdrawing for medical reasons must notify their GS advisors immediately if they would like to maintain health insurance, and must also reach out to the [Student](#)

[Health Insurance Office](#) to request a continuance of their student health insurance plan. For more questions on the impact of a withdrawal or leave on student health insurance, please refer to the [Columbia Student Health Insurance Plan](#).

## Dining Services and Flexdollars

Meals and Dining Dollars are generally non-refundable and non-transferable, even for non-used balances; exceptions to this rule are permitted only upon official academic withdrawal from Columbia University. For students withdrawing from a term in progress, a refund is possible for the unused portion of the plan or dining dollars, if students immediately notify [Dining Services](#) of their withdrawal and have this confirmed by their GS advisor. Refunds may be requested at the Dining Services located at 125 Wallach Hall.

## University Housing

Eligibility for housing is limited to students enrolled at GS full-time. Students have 30 days to vacate their unit, and must contact Columbia Residential to terminate their lease.

## Refunds

If you have a credit on your student account, contact Student Financial Services to request a refund. Students with financial aid must wait until after their exit interview and their aid has been recalculated to request a refund.

## University Privileges

- E-mail accounts are kept active from six to nine months for students who take a leave or withdraw; however, e-mail accounts are deactivated within a week for students who are suspended or dismissed, or who transfer or permanently withdraw from the School.
- Swipe access to University buildings is suspended during a student's leave or period of withdrawal from the School.
- Library privileges are normally suspended during a student's leave or period of withdrawal from the School.
- Access to Dodge Physical Fitness is suspended during a student's leave or period of withdrawal, except in those cases where a student chooses to pay a membership fee to continue receiving access to these facilities.
- Students on leave or withdrawal from a term in progress and/or suspended from GS are not allowed to enroll in another Columbia school during this period without written permission from the Dean of Students.
- Students who are not enrolled will not be able to participate in university events, workshops, programming, etc until the term in which they are re-enrolled.

## WITHDRAWAL FROM A SEMESTER IN PROGRESS

Circumstances occasionally require that a student withdraw from a semester in progress. Withdrawal means dropping all courses in a given term, as opposed to dropping a portion of the program. Withdrawal from a term in progress may have serious financial and academic consequences, and thus students should meet with their advisors so that they can make an informed decision. All withdrawals are noted on a student's transcript.

Students who wish to withdraw must submit the Leave of Absence/Full Withdrawal Form via the Forms tab on the **GS Student Success Portal**; notifying instructors or failing to attend classes does not constitute formal withdrawal. A student's tuition may be prorated depending on the date of the written notification of the withdrawal (please see below).

### Additional Facts and Policies for Students Withdrawing from a Term in Progress

- Students withdrawing from a term in progress are charged a \$75 administrative processing fee.
- Depending on the date of a student's withdrawal, tuition and other charges will be recalculated based on the Withdrawal Schedule established by the Trustees and published in the Student Fees booklet.
- Students who withdraw from their studies after the eleventh week of the semester may be advised not to return for at least four months (a minimum of one semester), to allow time to address the situation that led to the withdrawal.

## INVOLUNTARY LEAVE OF ABSENCE

The Dean of Students, or his or her designee, may place a student on an Involuntary Leave of Absence for reasons of personal or community safety. This process will be undertaken only in extraordinary circumstances when there is compelling information to suggest that the student is engaging in or is at heightened risk of engaging in behavior that could lead to serious injury to others, including as a result of physical or psychological illness. In addition, the Involuntary Leave process may be initiated if, based on an individualized assessment, it is determined that there is a significant risk that the student will harm him/herself, and that the risk cannot be eliminated or reduced to an acceptable level through reasonable and realistic accommodations and/or on-campus supports.

### Involuntary Leave of Absence Policy

This policy provides students with general information regarding an Involuntary Leave of Absence. For more specific information regarding the circumstances and processes for an Involuntary Leave of Absence, as well as conditions relevant to returning from Leave, students

should refer to the Academic Policies or speak with the Dean of Students. Students are responsible for understanding the implications of an Involuntary Leave of Absence for housing, financial aid, health insurance, and progress toward the degree.

This policy will not be used in lieu of disciplinary actions to address violations of Columbia University rules, regulations, or policies. A student who has engaged in behavior that may violate rules, regulations, or policies of the University community may be subject to the dean's Discipline Process of his or her particular school. A student may be required to participate in the disciplinary process coincident with being placed on an Involuntary Leave of Absence. A student who is placed on an Involuntary Leave of Absence while on academic and/or disciplinary status will return on that same status.

Before an Involuntary Leave is considered, efforts may be made to encourage the student to take a Voluntary Leave of Absence. These procedures are described in the Voluntary Leave of Absence Policy. A readmission process may still be required of a student electing a Voluntary Leave to determine his or her readiness to return to school (e.g., whether returning to school may increase the risk of self-harm and/or harm to others).

When safety is an immediate concern, the DOS (or his or her designee) may remove a student from the campus pending final decision on Involuntary Leave. If this action is deemed necessary, the student will be given notice of the removal. An opportunity to be heard by the DOS and, if desired, to appeal the final decision will be provided at a later time.

For more information, students should visit the [Essential Policies](#) or consult their respective advisors in the Dean of Students Office.

## MEDICAL LEAVES AND MEDICAL WITHDRAWALS

When students are faced with health issues that have a negative impact on study habits, course attendance, or class preparation, they are urged to consult with their advisors to discuss taking a medical leave of absence from the university. Students who are hospitalized during an academic term or who miss class for more than two weeks due to health issues are advised to take a medical withdrawal from the term in progress. Doctors at [Medical Services](#) as well as counselors at [Counseling and Psychological Services \(CPS\)](#) can also help students evaluate whether a medical leave is advisable.

Students must provide medical documentation from a health care provider whose specialty is appropriate to the associated condition to support their requests for medical leaves or medical withdrawals. As part of the re-enrollment process, students will also be required to supply current medical documentation from a health care provider whose specialty is

appropriate to the associated condition, and to be evaluated by the relevant branch of [Columbia Health](#).

In exceptional cases, when there is sufficient information to suggest that as a result of physical or psychological illness, a student is engaging in or is likely to engage in behavior that could lead to injury to self or others, the Dean of Students, in consultation with UHS, CPS, and the Office of Public Safety, may place a student on an involuntary leave of absence for reasons of personal or community safety.

Students who withdraw from their studies after the eleventh week of the semester or for medical reasons are not allowed to return for at least four months (a minimum of one semester), to allow time to address the situation that led to the withdrawal.

## LEAVE FOR MILITARY DUTY

Under the Higher Education Opportunity Act of 2008 (HEOA), institutions are required to readmit an individual who left school or did not accept an offer of admission in order to perform military service. The following sections explain the eligibility and readmission requirements of this policy.

### Eligibility

Students are eligible for readmission under this provision if, during their leave, they performed or will perform voluntary or involuntary active duty service in the U.S. armed forces, including active duty for training and National Guard or Reserve service under federal authority, for a period of more than 30 consecutive days, and received a discharge other than dishonorable or bad conduct. In general, the cumulative length of absence and all previous absences for military service (service time only) must not exceed five years.

### Requirement of Notice

If a student is planning to take a leave for military service, he or she must give advance written or verbal notice of military service to the Dean of Students, unless such notice is precluded by military necessity. To be readmitted, students must give notice (written or verbal) of their intent to re-enroll to the Dean of Students no later than three years after the completion of the period of their service. If a student is recovering from a service-related injury or illness, he or she must notify the school no later than two years after their recovery.

A student who does not submit a timely notification of intent or provide an attestation within the designated time limits may not be eligible for the benefits outlined herein.

### Tuition and Fees

For the first academic year in which the student returns, he or she must be readmitted with the same tuition and fees charges the student was or would have been assessed for

the academic year when the student left, unless there are sufficient veterans' educational benefits or institutional aid to pay the increased amount of tuition and fees. For subsequent academic years, the student may be charged the same tuition and fees as other students in the program.

## Readmission Requirements

The school must allow the student to re-enroll in the next class or classes in the same program, with the same enrollment status, number of points, and academic standing as when he or she was last in attendance at Columbia. The student may also request a later date of admission or, if unusual circumstances require it, the institution may admit the student at a later date. If the school determines that the student is not prepared to resume the program where he or she left off, the school must make reasonable efforts at no extra cost to the student to enable the student to resume and complete the program. Such reasonable efforts include, but are not limited to, providing a refresher course and allowing the student to retake a pretest, as long as they do not place an undue hardship on the school. If reasonable efforts are unsuccessful or the school determines that there are no reasonable efforts that the school can take, the school is not required to readmit the student.

If the program to which the student was admitted is no longer offered, the student must be admitted to the program that is most similar, unless the student requests or agrees to admission to a different program.

## TUITION REFUND SCHEDULE

For the complete tuition refund schedule please refer to the [University Registrar website](#).

## RE-ENROLLMENT

Undergraduate students must manage their re-enrollment through the Dean of Students Office such that they return within three years of the end of their last completed semester at GS. As part of this process students should arrange to have cleared all registration holds so as to be enrolled at Columbia by this specified timeframe.

Leaves of absence for up to one year are granted to Postbac Premed students who anticipate returning to Columbia to complete their studies.

Students granted re-enrollment must return to Columbia the following semester and complete that term to maintain their academic status at GS. Students who desire to return after a withdrawal must complete the required actions detailed on the Re-Enrollment tab within the [Student Success Portal](#) by the listed due date (including a personal statement addressing the circumstances of their withdrawal, if applicable). Petitions for re-enrollment are reviewed by representatives of the Committee on Academic Standing for



undergraduate students or of the Premedical Committee for Postbacs.

Note: An undergraduate student whose absence from the School of General Studies exceeds three years from their last completed term must formally reapply to the School through the GS Office of Admissions. A Postbac Premed student whose absence from the Postbac Premed Program exceeds one year must formally reapply to the Program.

### Regular Re-enrollment Checklist

1. Review and resolve any registration holds with appropriate offices (Student Financial Services for financial holds; Columbia Health for health holds, etc.)
2. Register for a class (or multiple classes) in the upcoming semester.
3. Schedule an appointment with GS advisor.

### Medical Re-enrollment Checklist and Deadlines

In addition to submitting a re-enrollment form and personal statement in the [Student Success Portal](#), all students who take a medical leave or withdraw for medical reasons must have their physician or other health care provider support their readiness to resume their studies. To demonstrate this support, students must submit documentation from a health care provider whose specialty is appropriate to the associated condition that led to the student's leave or withdrawal. Students submit this documentation to the Associate Dean of Student Wellbeing. It is evaluated by the GS Medical Leave Re-Enrollment Committee. In addition, students requesting to return from a medical withdrawal or medical leave may be required to be evaluated by the relevant branch of Columbia Health to complete the re-enrollment process. Undergraduate students who are granted re-enrollment are asked to participate in a brief re-orientation program to support their return.

It is a student's responsibility to ensure that the re-enrollment application is submitted through the [Student Success Portal](#) (including the personal statement and additional documentation, if applicable) is received by the relevant deadline. Late and incomplete petitions will not be considered.

### Medical Withdrawal/Leave of Absence Re-enrollment Deadlines

### Medical Re-enrollment Checklist

1. Review and resolve any registration holds with appropriate offices (Student Financial Services for financial holds; Health Services for health hold, etc) **except** the "Advisor Hold"

2. Complete re-enrollment form
3. Send personal statement and medical documentation to Associate Dean of Student Wellbeing
4. International students must also contact ISSO for re-enrollment
5. If requested, schedule an evaluation with the relevant branch of Columbia Health to complete the re-enrollment process
6. Upon approval of re-enrollment petition, schedule a re-enrollment appointment with your GS advisor and the Associate Dean of Student Wellbeing

## MIDTERM AND FINAL EXAMS

### MIDTERM EXAMINATIONS FINAL EXAMINATIONS

Final examinations are given at the end of each term. The Master Exam Schedule can be found on the [University Registrar's website](#) and provides a tentative guide to final examinations. Students are urged to consult the final examination schedule section in SSOL during the early weeks of each term for the most accurate information. Students are expected to be present for the exam period and should plan their schedules to accommodate the scheduled exam times. Examinations will not be rescheduled to accommodate travel, work, or family plans.

### Three or More Final Exams Scheduled for the Same Day

If a student has three examinations scheduled during one calendar day, as certified by the Registrar, an arrangement can be made with one of the student's instructors to take that examination at another mutually convenient time during the final examination period. It is the student's responsibility to obtain the appropriate documentation from the Registrar's Office in a timely manner and to negotiate with professors for an alternative date for one of the finals during the official examination period. GS advisors can be helpful to students negotiating such arrangements.

### Incompletes

Students must complete all coursework by the last day of exams in a given semester. For students who cannot complete their coursework or are unable to take a final examination, an incomplete for a course in progress may be granted by the General Studies Committee on Academic Standing (CAS) or the Premedical Committee given appropriate circumstances.

The only reasons for which an incomplete will be granted are incapacitating illness, as certified by the University Health Services or a personal physician; serious family emergency;



or circumstances of comparable gravity. Students who wish to receive an incomplete must, in consultation with their GS or Postbac advisor, petition the Committee on Academic Standing or the Premedical Committee in writing. To be granted an incomplete, a student must have completed all work in the class with the exception of the final paper or final exam (to which the incomplete applies). Students are encouraged to understand an incomplete as a last resort and are advised to complete academic work on the standard schedule whenever possible. The challenges associated with completing deferred exams and papers after a class has ended, and/or during the following semester, can be significant.

There are three categories of incompletes available as accommodations: a deferred examination; an incomplete on written work (i.e. the final paper or project for the course); and an incomplete take-home exam. Faculty members, while consulted for approval of specific incompletes, are not authorized to grant extensions beyond the end of term. Students should contact their advisors first when an exam or deadline is missed. Petitions for official incompletes at the end of term should be based on unexpected circumstances that arise only within the last two weeks of the course and that may prevent a student from the timely completion of the final coursework or exam.

When an incomplete is granted, the Dean of Students office will contact the instructor of the class to inform them and provide instructions for how the incomplete will be administered. The faculty member issues a temporary grade of AR and a contingency grade the student will earn if the outstanding work is not completed. The AR is then converted by the Dean of Students Office to an IN (incomplete), another temporary grade and an indication of the incomplete status of the course. The IN is replaced by a permanent grade issued by the faculty member once outstanding work is completed.

Students who are granted an incomplete are assigned a deadline for completion of the overdue written work or a date by which a deferred examination must be taken. For written work and take-home exams, the deadline is typically five to six weeks past the end of the finals period; deferred examinations are scheduled during the first two weeks of the following term. (Note: deferred examinations are not typically scheduled over the summer.) Students who fail to meet the assigned deadline or miss the deferred examination are issued the contingency grade provided by the instructor as their permanent final grade.

In very rare cases where incapacitating circumstances continue beyond the end of the term, students may apply for an extension of the incomplete. Even with an approved extension, all incompletes must be resolved by the end of the term immediately following the approval (i.e. an incomplete in a fall course must be resolved by the end of the following spring; an incomplete in a spring course must be resolved

by the end of the following fall). The only exception is for students who are on continuous leave following the approved incomplete. In such cases, the incomplete must be resolved upon re-enrollment.

Students with three or more incompletes will be required to take a leave of absence for the following semester unless they receive explicit permission otherwise from the Committee on Academic Standing or the Premedical Committee. When allowed to enroll, students with three or more incompletes will usually be advised to enroll part-time. Undergraduate students with one or more incompletes in the spring term are not allowed to enroll in the first summer term or to study abroad in the summer without permission of the Committee on Academic Standing. Prehealth students with grades of AR in required science or math courses are ineligible for committee support until a final letter grade is recorded.

### **Incomplete Written Work**

Students must submit a formal petition for an incomplete on written work (typically the final paper) within 48 hours of the missed deadline. Students are advised to submit a draft of their written assignment to the faculty member while the petition for an incomplete is being considered by the CAS or the Premedical Committee, noting to the professor upon submission that an incomplete has been requested and that a final product will follow.

### **Deferred Exams**

In situations in which an incapacitating illness prevents a student from sitting for a final exam, the student should contact their advisor *immediately* to submit a formal petition for an incomplete exam. Students must provide documentation of illness by University Health Services, a personal physician, or an emergency room within seventy-two hours of submitting the petition. If the incomplete petition is approved, the student will be permitted to sit for the exam on one of the official deferred exam dates published in the GS Academic Calendar. Students cannot pick the date; they will be notified of the date, time, and place of the exam.

**Note:** An incomplete can only be requested before taking an exam. Once a student has engaged with examination materials it is usually no longer possible to request an incomplete. In the event that a student experiences a medical issue during an exam, they should let their professor or exam proctor know immediately and ask for guidance.

### **Incomplete Take-Home Exams**

In situations in which an incapacitating illness prevents a student from engaging a final take-home exam, the student should contact their advisor *immediately* to submit a formal petition for an incomplete. Students must provide documentation of illness by University Health

Services, a personal physician, or an emergency room within seventy-two hours of submitting the petition. If the incomplete petition is approved, the student will be given the opportunity to complete a take-home exam at a later time, often five to six weeks following the end of the finals period.

**Note:** Although some professors may choose to allow students approved for an incomplete to take additional time towards the original exam, in most cases students should expect to complete a new take-home examination under the same time conditions as the original.

## Examinations for Students with Disabilities

Students with disabilities must be registered with the [Office of Disability Services](#) to avail themselves of approved accommodations and other important services. Students with disabilities are expected to take exams with or at the same time as the rest of the class. However, some students may need special accommodations for exams depending on their disabilities. Each term the Office of Disability Services requests that students provide them with complete and advance information about their examination schedule so that appropriate accommodations can be made if disability-related modifications are needed.

# PLACEMENT EXAMS

## Quantitative Reasoning Assessment Exam

Entering GS undergraduate students may take the Quantitative Reasoning (QR) Assessment Exam prior to or during Orientation week unless they have scored, within the past eight years, a minimum of 600 on the Math SAT or a minimum of a 27 on the math subsection of the ACT. The QR Exam lasts one hour, and students are permitted to use a calculator. For more information, see [Placement Exams](#).

## Math Placement Exam

Undergraduates and Postbac Premed students needing to assess their math skills should take the Math Placement Exam. The exam consists of two parts: Part I will place students into College Algebra and Analytic Geometry, and Part II will place students into Calculus I. Students must pass Part I to be eligible to take Part II. For more information, see [Placement Exams](#).

## Chemistry Placement Exam

The Chemistry Placement Exam tests basic knowledge of chemistry required for enrollment in General Chemistry I. Postbac Premed students who have not taken a college-level chemistry course, or who received a grade below B- in a college-level chemistry course, should take the Chemistry Placement Exam before enrolling in General Chemistry I. For more information, see [Placement Exams](#).

## Language Placement Exam

GS undergraduate students may fulfill the foreign language requirement or ascertain their level of language proficiency via a language placement exam within one year of matriculating at GS.

Foreign language placement exams are usually given at the beginning of each semester by departments offering foreign languages. A list of these exams is printed in the Orientation schedule. Students may also contact individual departments for information about placement exams. (Some language departments do not have regularly scheduled placement exams; students should contact these departments to arrange for a special placement examination.)

Students must demonstrate proficiency equivalent to the second semester of intermediate-level language study to complete the language core requirement.

If a placement exam is not available in a language in which a student has expertise, that student should notify their GS advisor during the first semester after matriculation and the advisor will attempt to make arrangements for an appropriate assessment or placement exam.

Students who pursue language study as part of a Columbia-approved study abroad program and wish to use that language to fulfill the GS language requirement may need to take a placement exam upon their return from study abroad. Students should consult with the GS Study Abroad Advisor for details. For language requirements see [Study Abroad](#).

## Music Humanities Exemption Exam

The Music Humanities Exemption Exam is offered on the first Friday of the fall semester by the [Music Department](#) (621 Dodge Hall). The exemption exam must be taken within the first year of matriculation; undergraduate students who begin in the fall term must take the exam in the fall; those who begin in spring semester should take the exam the following fall term. Students are not allowed to take the exemption exam after their first year of matriculation. Students may take the exam only once; if they do not pass the exam, they must enroll in a course approved to count towards the Music Humanities core requirement.

# REGISTRATION

Registration is the systematic process that reserves seats in particular classes for eligible students. It is accomplished by following the procedures announced in advance of each term's registration period. Enrollment is the completion of the registration process and affords the full rights and privileges of student status. Enrollment is accomplished by the payment or other satisfaction of tuition and fees and by the satisfaction of other obligations to the University.

Registration alone does not guarantee enrollment, nor does registration alone guarantee the right to participate in a class. In some cases, students will need to obtain the approval of the instructor or representative of the department that offers a course. Please check this website and the registration instructions contained in the [Directory of Classes](#) and/or [Vergil](#) for all necessary approvals.

## REGISTRATION

### New Students

New students may register for classes only after completing an undergraduate Academic Planning Session or Postbac Planning Session. Students are expected to consult with their advisors for approval of their schedules either prior to, or shortly after, registering for courses. Additional details will be covered as part of the Academic or Postbac Planning Sessions for students matriculating each term.

### Process for All Students

Prior to meeting with their advisors about registration, students should consult the GS website in order to plan a schedule of classes. The website provides major requirements and current course descriptions for undergraduates and the prescribed prehealth curriculum for Postbac Premed students, as well as times and locations of classes. Students may also consult the [Directory of Classes](#) and/or [Vergil](#) for detailed information. Students plan their programs with the help of their GS advisors and, for those who have declared their majors, with the additional assistance of faculty advisors. If a course requires permission of the instructor or department, a student is responsible for obtaining that permission. Registration for courses in divisions of the University not listed on the GS website requires permission from the Office of the Dean of Students.

GS students will register online via [SSOL](#) during designated registration periods and the change of program period (typically, the first two weeks of each semester). Under special circumstances students may also be able to enroll after the change of program period with instructor approval and permission of the GS Committee on Academic Standing or Premedical Committee. In all cases, students may not register for a class after the third week of class meetings.

The dates for registration periods are published in the GS Academic Calendar and on the [Registrar's Academic Calendar](#). Students will need their University Network Identification (UNI), Network Password, and all relevant course numbers and call numbers in order to complete the registration process. All students are strongly advised to participate in the early registration period for each term that allows them to reserve seats in courses for the following semester.

## CANCELATIONS AND CHANGES TO REGISTRATION

### Canceling Registration

Students who decide to defer their admission, take a leave of absence, or not matriculate at GS after having registered for classes must contact their GS advisor to initiate the withdrawal process required for canceling registration. Failure to complete this mandatory administrative procedure in a timely fashion will result in the student being liable for tuition and associated fees for the term in question.

### Changes to Registration

Students are able to make changes to their registration online during the registration and change of program periods each semester. Students are expected to consult with their academic advisors for approval.

### Registration Holds

A "hold" on an account prevents a student from registering. Students may check for holds by logging on to Student Services Online (SSOL). Possible reasons for having a hold include significant debt to the University (financial hold); failure to provide evidence of required inoculations (health hold); overdue library books (library hold); or other academic, disciplinary, or administrative reasons designated by GS (dean's hold). Students with a dean's hold must contact their GS advisor.

## COURSE PREREQUISITES AND INSTRUCTOR APPROVAL

### Prerequisites

Prerequisites are specified in the individual course listings available in Course Offerings. Prior to registering for courses, students should ensure they have met the prerequisites for each course. If prerequisites are not specified for upper-level courses, students are advised to consult with the instructor prior to the first day of class. Students should not register for courses if they have not met the stated prerequisites. However, in exceptional cases, students may be granted permission to enroll in such courses by demonstrating to the instructor that they have competence equivalent to the prerequisites. Some courses, especially seminars and colloquia, require instructor permission even when students meet course prerequisites; students should consult the online directory of courses to note whether instructor approval is required.

### Instructor Approval

Instructor permission may also be granted electronically via SSOL in cases where courses have an electronic wait list. Students may choose within SSOL to place themselves on course wait lists, which are of two varieties: either filled automatically on a space-available basis or filled by the

course instructor based on student qualifications. Once a student is admitted to the course, the student is notified that they have been enrolled in the course and removed from the wait list.

Several departments that limit enrollment in their upper-level seminars and colloquia have special application processes. Priority enrollment in these seminars is often given to majors and seniors. Students are responsible for following special application or registration processes specified by individual departments for these limited-enrollment courses.

## REGISTRATION DETAILS

### Core Courses

Students interested in registering for Core courses or petitioning to transfer sections should consult the Core Registration and Petitions page.

### Visual Arts Courses

It may not be possible to register online for all visual arts courses; students must follow a procedure that is different from registering for most other courses. Some visual arts courses require that students show a portfolio prior to registration. Most visual arts courses require that students attend the first two days of class to ensure their spot and then secure the written permission of the instructor. Preference in visual arts classes is given to majors. For more information about registering for Visual Arts classes see Visual Arts Registration.

### Dance Courses

Registration for dance classes is by permission of the instructor. GS students registering for a dance class must register for at least one point: GS students **may not** register for a zero-point dance class.

### Physical Education Courses

General Studies students are not required to take physical education courses. Students who are interested in registering for a physical education course as an elective should follow the directions on the [Physical Education website](#). Normally students may take only one P.E. course per semester; enrollment in more than one P.E. course per semester requires the approval of the Director of Physical Education Programs, to whom students should submit a petition.

## CROSS-REGISTRATION INTO OTHER COLUMBIA DIVISIONS

Students who wish to take courses in one of Columbia's graduate or professional schools or programs must receive written approval from both GS and the appropriate graduate or professional school or program, as well as the instructor of the course, and must also submit a [Cross-Registration petition](#). Undergraduate students should have completed one semester and 15 points of letter-graded Columbia

coursework and be in good standing within the School to be eligible to petition for coursework in another school. Postbac Premed students must be in good academic standing within the Program and must have a compelling reason, consistent with their academic goals, for cross-registering. All work for these courses must be completed within the term in which the student is enrolled. Students registering for courses at Barnard, SEAS, or in the graduate or professional schools should be aware that such courses may be subject to registration policies specific to the program offering them and may present unfamiliar academic challenges.

Note: GS students are not allowed to count professional courses in any of the professional studies programs offered through Columbia's School of Professional Studies toward the degree. Rare exceptions to this rule exist when a course is listed as an approved part of a student's major or concentration (for example, Sustainable Development). Students are strongly encouraged to discuss such courses with their GS academic advisor prior to registering.

## LIMIT ON PROFESSIONAL COURSES COUNTED TOWARD THE DEGREE

GS students are permitted four courses of professional coursework toward their GS degrees. Exceptions to this rule include GS students accepted into the combined or dual degree programs with Columbia's professional schools, where applicable. Courses which are cross-listed with undergraduate departments do not count toward this limit; nor do courses approved by the student's major department to count toward major requirements. For more information see [Degree Fulfillment](#).

## STUDY ABROAD

Study abroad programs provide a wonderful opportunity to enhance a Columbia education, especially given the numerous programs either sponsored or approved by Columbia in countries around the world. All study abroad programs, including Columbia-led study abroad programs, must be approved by the appropriate GS Study Abroad Advisor. For study abroad-related questions, please email [gsstudyabroad@columbia.edu](mailto:gsstudyabroad@columbia.edu).

### Eligibility

- You must be an enrolled student in good academic and disciplinary standing with a minimum cumulative GPA of 3.0, and must maintain a 3.0 GPA during the semester preceding the study abroad program.
- You must meet the prerequisites of your chosen program. Please be aware of any disciplinary and language requirements.



- Students must be actively enrolled during the term of application submission. Additionally, if a student is on leave or withdraws from the term in which they are applying to study abroad, they will no longer be eligible to study abroad and any prior approval will be rescinded.
- Grades of Incomplete (IN) or AR must be resolved prior to departure for all study abroad programs.
- Students must be registered for two semesters at General Studies before departing on a study abroad program.
- Students may study abroad for a maximum of three semesters (inclusive of summer).

## Additional Fall, Spring, and Academic Year Requirements

- Students are required to have a minimum of 56 points earned toward the degree and have declared a major.
- Premedical and other prehealth students cannot satisfy prehealth academic requirements with courses completed abroad.
- Prior to going abroad, students are expected to have completed University Writing and to have completed or plan to complete their language while abroad.

## STUDY ABROAD ACADEMIC CLEARANCE:

### Columbia Approved Programs

- Students participating in non-Columbia programs (Columbia Approved) receive academic clearance from the GS Study Abroad Advisor by first completing the clearance questionnaire in their UGE application and then by making a study abroad clearance appointment with the advisor. To make a clearance meeting, you must first request a study abroad clearance advisor on the [student portal](#).

### Columbia-Led Programs

- Students participating on a Columbia-Led Fall, Spring, or Academic year program receive academic clearance by completing the online questionnaire. They do not need to meet with the GS Study Abroad Advisor.
- Students participating on Columbia-Led Summer programs **do not** need to receive academic clearance from GS. Any program or application questions should be directed to UGE.

## Study Abroad Clearance Deadlines

Spring Semester: October 1

Fall Semester: March 1

Academic Year: March 1

Summer Semester: Please check the program's website.

Most range between February 1 and May 1.

## REASONS FOR RESCINDED DECISIONS:

Study abroad approval may be automatically rescinded if a student's grade point average falls below 3.0, if a student fails to meet good academic and/or disciplinary standing, or if a student has an Incomplete in coursework the term immediately prior to departure. **Students must be registered in the program prior to departure. If the student cannot be registered in the course, their clearance may be rescinded.** In the event that clearance is rescinded, students will be responsible for travel expenses accrued. Other conditions as imposed by the GS Study Abroad advisor and/or Dean of Students may apply.

## COURSE APPROVAL AND LIMIT OF TRANSFER CREDITS

Credits from non-Columbia programs may be counted toward the GS degree; however, a student's total number of transfer credits may not exceed 60. Please review the UGE website for more information on [Academic Credit](#).

### Transfer Credit Approval

- To be eligible for transfer to Columbia, courses must be pre-approved by the General Studies Study Abroad advisor. Approved courses will count towards the 124 credits required for graduation. Students must complete the General Studies course approval questionnaire, located on the UGE website's online application.
- Credit is **not** granted for courses taken on a Pass/Fail basis or for online courses.
- Only courses in which a grade of C or higher is earned are eligible for transfer credit.
- Credit is **not** granted for courses in business, education, journalism, or other subjects at Columbia's professional schools.

### Core Course Approval

- GS Study Abroad advisor will approve core courses with the exception of Global Core. Students should speak with their Advising Dean about core courses taken on Columbia-Led programs.
- A special petition process is required for approval to fulfill a Global Core Requirement with a course taken abroad on a Columbia Approved Program, or a course taken at the local university on a Columbia-Led Program. The course may satisfy the requirement only if the petition is approved by the Committee on the Global Core.
- Columbia Committee on the Global Core: [Petition to the Committee on the Global Core for Course Approval](#).
- The Global Core Petition Deadlines Are:



- October 1
- March 1
- July 1

## Major Course Approval

- If a student wishes to have courses from a particular study abroad program count toward major requirements in a department, the student must consult the relevant academic department separately for approval. Courses that are not approved by GS for transfer credit cannot be counted by a department toward major or concentration requirements.

## IMPORTANT DATES:

Program application deadlines vary by program. Some program application deadlines are quite early and can be up to a year in advance of the term in which you will be studying abroad. You must meet both campus and program deadlines, so be sure to apply early.

## STUDYING ABROAD IN YOUR LAST SEMESTER AT GS

Because students must complete their final semester at Columbia, study abroad in term of graduation is typically only possible in programs led by Columbia faculty. Doing so may also result in a delayed graduation date as degrees cannot be conferred until official program transcripts have been received by Columbia.

## STUDY ABROAD FEE

Students studying abroad on Columbia-Approved programs are charged an administrative fee of \$750 per semester (summer study counts as one semester).

## STUDY AWAY FROM COLUMBIA

After matriculating at the School of General Studies, permission to take courses toward the GS degree or, for Postbac Premed students, to satisfy prehealth requirements at an accredited U.S. institution of higher education other than Columbia is granted by special petition only in exceptional cases when critical areas of study relevant to a student's undergraduate program or prehealth studies are not available at Columbia. Such exceptional accommodations are usually granted only once during a student's degree or certificate program at GS. Students petitioning for this exception must be in good standing at Columbia. Credits from non-Columbia programs will be counted toward the GS degree as long as the maximum number of allowable transfer credits does not exceed 60. No credit is transferred when Postbac Premed students are approved to take courses outside Columbia; however, courses may be used to satisfy requirements.

## PETITIONING TO TAKE COURSES AWAY FROM COLUMBIA

With the exception of approved study abroad programs, GS rarely approves petitions for students to have credits from another academic institution count toward the GS degree after a student has matriculated at GS. Students who believe they have exceptional reasons to submit such a request should meet with their respective GS advisors before formally petitioning the GS Dean of Students. Petitions to take courses away from Columbia must be made in advance of the study away program; credit will not be granted retroactively. As part of the formal petition process, students will also be required to provide departmental approval from their major departments for any courses taken away from Columbia that they wish to count towards their major requirements. Postbacs should be able to show that the course(s) they propose to take outside Columbia are both required for admission to the health professional programs to which they seek admission and not offered at Columbia. Such requests are most frequently made by preveterinary and pre-allied health students.

Undergraduate and Postbac Premed students may not enroll concurrently at another academic institution unless such dual enrollment has been authorized by the GS Dean of Students Office; such work will not count toward the GS degree or prehealth requirements unless approved in advance.

## STUDY WITHIN COLUMBIA'S GRADUATE AND PROFESSIONAL SCHOOLS

Professional Schools (p. 694) | Cross-Registration Policies (p. 695) | Limit on Courses Counted Toward Degree (p. 695) | Joint and Combined Programs (p. 696)

## GRADUATE AND PROFESSIONAL SCHOOLS

A limited number of courses in Columbia's graduate and professional schools are open to undergraduates. Undergraduates may take a maximum of four courses for elective credit in professional courses toward the 124 points necessary for their degree. Graduate classes approved by the major department for credit toward the major will not count against this limit. Those students who wish to take a graduate or professional course and not count it toward the 124 points necessary for the undergraduate degree should review this option with their respective GS advisors. In addition, the following Columbia graduate and professional schools offer undergraduate-level courses specifically designed for undergraduate students, for which no cross-

registration process is needed: School of the Arts, School of Journalism, and Mailman School of Public Health.

To enroll in a course at one of Columbia's graduate or professional schools, students must have approval from GS. Students must submit a cross-registration petition form, which is required as part of the approval and registration process. Students must follow the cross-registration policies established by the various graduate and professional schools, must have permission to enroll from the instructor of the course, and must have the permission of the school in which the course is offered. A student must have completed one semester and 15 points of Columbia coursework and be in good standing within GS to be eligible to petition for coursework in another school. If a course is cross-listed within the course offerings of an undergraduate program or department, students need not file a special petition.

Students who enroll in graduate or professional courses with the permission of GS are still bound by GS policies regarding drops, withdrawals, Pass/D/Fail, and incompletes. Students are not permitted to hand in coursework after the official end of term, even if the graduate-level course permits or encourages extensions, unless the student has been approved for an incomplete (see Midterms and Final Exams in Academic Policies). All work for these courses must be completed within the term in which the student is enrolled. Students registering for courses at Barnard, SEAS, or in the graduate or professional schools should be aware that such courses may be subject to registration policies specific to the program offering them and may present unfamiliar academic challenges.

In every instance of cross-registration in one of the graduate or professional schools, GS students must complete the Cross-registration Petition to be approved by the appropriate offices. [Back to top](#)

## CROSS-REGISTRATION POLICIES

**Barnard:** Cross-registration into Barnard courses has no restrictions unless so indicated in specific programs and course descriptions. Barnard students have priority of enrollment over Columbia students in all Barnard courses.

**Barnard Education Program:** Courses in the Barnard Education Program are open only to students who have been admitted to the program.

**The Fu Foundation School of Engineering and Applied Science:** Cross-registration into engineering courses has no restrictions unless so indicated in specific programs or course descriptions. In such cases, a maximum of two courses may be taken on a space-available basis. This limit does not apply to students in the 3-2 Combined Plan program or to computer science majors or concentrators.

**Graduate School of Architecture, Planning, and Preservation:** Lectures may be taken on a space-available

basis by qualified undergraduates. Undergraduates are not allowed to enroll in any seminars or studio courses.

**Graduate School of Arts & Sciences:** Qualified undergraduates may take graduate-level courses in the department in which they are majoring with the permission of the instructor and the director of undergraduate studies in the department. Qualified students who wish to take graduate-level courses outside their major must have the permission of the instructor and their GS advisors, as indicated on the GS cross-registration form.

**Mailman School of Public Health:** Students who have been accepted into the GS/Mailman Accelerated MPH program may cross-register for one elective course at Mailman during their senior undergraduate year. The course will count toward the undergraduate degree.

**School of the Arts:** Graduate courses may be taken on a space-available basis by qualified undergraduates.

**School of International and Public Affairs:** Normally SIPA courses may only be taken by students in one of the approved five-year combined degree programs. In exceptional cases, other students may be allowed to enroll in a particular course, but must have signed permission from the SIPA. [Additional information and relevant forms](#)

**School of Journalism:** Courses may be taken on a space-available basis, but this option is usually restricted to graduate students and/or seniors. [Additional information and relevant forms](#)

**Teachers College:** In general, GS students are not allowed to register for courses at TC. Most inquiries about course registration at TC relate to their offerings in musical instruction and conflict resolution; GS students are directed to enroll in courses offered in these fields through Columbia's Faculty of the Arts & Sciences. GS students cannot enroll in music instruction courses at TC. Petitions for other coursework at TC to count toward the GS degree must be submitted to the Committee on Academic Affairs through the student's GS advisor.

## LIMIT ON GRADUATE AND PROFESSIONAL COURSES COUNTED TOWARD THE DEGREE

GS students are permitted only 4 courses of graduate or professional studies coursework toward their GS degrees. Graduate classes approved by the major department for credit toward the major will not count against this limit. Exceptions to this rule include GS students accepted into the combined programs with Columbia's Schools of Business, Law, Social Work, or International and Public Affairs.

## JOINT AND COMBINED PROGRAMS

GS supports several dual-, combined-, and joint-degree programs with Columbia's graduate and professional schools. Students must be specially nominated for these programs and only highly qualified candidates will be considered. The minimum requirements for a nomination for most of these highly competitive programs include a minimum GPA of 3.5, a minimum of 60 points completed toward the degree (of which at least 30 letter-graded points must have been earned at GS), and satisfactory and relevant professional experience.

Students are normally expected to complete their core requirements and be a declared major prior to enrollment in combined programs. More information about the application process and requirements for these programs will be provided to qualified students. Following are the schools and programs to which GS may recommend highly qualified candidates for combined degrees:

- [The Fu Foundation School of Engineering and Applied Science](#)
- [Mailman School of Public Health](#)
- [The School of International and Public Affairs](#)
- [The Graduate School of Arts and Sciences](#)
- [Columbia Law School](#)

The Postbac Premed Program has arrangements with degree programs at the Institute of Human Nutrition, the Mailman School of Public Health, and the School of Professional Studies. Postbacs preparing to matriculate into the M.S. in Bioethics Program upon completion of their postbac studies are eligible to complete up to six credits of coursework in the bioethics curriculum while still in the Postbac Program; however, they will need to secure permission of the Bioethics Program administrator to do so. [More information](#)

### Contact

Qualified students should discuss their interest in one of these programs with their [advising dean](#) and attend the information sessions about these programs sponsored by the GS Dean of Students Office and the individual schools.

## COLUMBIA LAW SCHOOL PROGRAMS

The Columbia Law School LEAD Fellowship Program affords highly qualified juniors and seniors from Columbia College, Barnard College, SEAS, and General Studies the opportunity to matriculate at Columbia Law School after pursuing and completing an approved, two-year commercial or non-profit venture. Prospective students will apply in their junior or senior years and, as part of the application process, describe their plan to engage in a non-profit or

entrepreneurial project or venture. Once accepted, students will pursue the approved opportunity for two years following graduation, and then begin their studies at Columbia Law School. Accepted applicants will receive a grant of up to \$10,000 in support of their two-year project. LEAD Fellows can pursue other employment opportunities or graduate study in the two-year period prior to matriculating at the Law School.

### Eligibility

Currently, only undergraduates enrolled at Barnard, Columbia College, SEAS, and General Studies are eligible to apply to the program. Competitive applicants will have a GPA of 3.8 or higher and meet the [admissions criteria](#).

### Application for Admission

Students should consult their advising dean and GS law school advisor as soon as they are interested in the program to discuss their candidacy. Please see below for the following application steps.

- Students should attend any information sessions regarding the LEAD program and should refer to the [LEAD Program website](#) for the application timeline, including program information session dates.
- Register with [LSAC.org](#)
- Begin application for LEAD program. Applications open on March 15 through [LSAC.org](#), and must be completed by June 15.
- Begin drafting Project Plan and personal statement/ essay in consultation with GS law school advisor. Applicants are required to submit three essays, and may submit one optional essay. Please see [here](#) for additional information.
- Prepare resume/CV
- LSAT or GRE scores must be received by July 1st of the application year
- Obtain two faculty/academic letters of recommendation (no more than three will be considered)
- Obtain [Dean's Certification](#) from GS law school advisor

Please see the LEAD Program website for [additional information](#) regarding the application timeline, process, and requirements, as well as [frequently asked questions](#).

### Once Admitted

Students will be notified of acceptance by or before the end of July. Successful applicants who accept Columbia's offer of a LEAD Fellowship are required to sign a LEAD contract and are obligated to attend the Law School after their two-year deferral period. There are two versions of this contract; you may preview the contracts for applicants who are submitting a project plan/applying for a grant and the contract for applicants who are not submitting a project plan/[applying for a grant](#).

## Accelerated Interdisciplinary Legal Education (AILE) Program

The Accelerated Interdisciplinary Legal Education (AILE) Program affords highly qualified, exceptional undergraduate student the opportunity to earn the BA and JD degrees in six years. Accepted students must have completed at least 93 credits and all core and major requirements, and are admitted after completion of their junior year. Typically, transfer students and students who have completed less than six semesters at Columbia are not eligible for the program. Students must be nominated for consideration by their school; applications are reviewed and accepted by the Columbia Law School Admissions Committee.

Students enrolled in any of the international dual BA programs (CUHK, Sciences Po, Tel Aviv University, Trinity College, Dublin) are not eligible to apply for the AILE program.

### Contact Information

For additional information, please contact [gsgadcoaching@columbia.edu](mailto:gsgadcoaching@columbia.edu). ([gsgadcoaching@columbia.edu](mailto:gsgadcoaching@columbia.edu)) Students may also contact [admissions@law.columbia.edu](mailto:admissions@law.columbia.edu) for questions regarding the application process.

## GSAS BA/MA OPTION

The Columbia Graduate School of Arts and Sciences (GSAS) affords highly qualified Columbia undergraduate students the opportunity to pursue and obtain a Masters of Arts (MA) degree in an academic discipline of their choice. Accepted students will receive their offer of deferred admission in their junior or senior year.

### Degree Offerings

The BA/MA option is available in the following academic disciplines:

- [African-American Studies](#)
- [Classical Studies](#)
- [East Asia: Regional Studies](#)
- [East Asian Languages and Cultures](#)
- [Ecology, Evolution, and Conservation Biology](#)
- [English and Comparative Literature](#)
- [European History, Politics and Society](#)
- [French](#)
- [Global Thought](#)
- [Human Rights Studies](#)
- [Islamic Studies](#)
- [Islamic Studies and Muslim Cultures](#)
- [Jewish Studies](#)

- [Latin American and Iberian Cultures with a concentration in Hispanic Cultural Studies](#)
- [Medieval and Renaissance Studies](#)
- [Middle Eastern, South Asian, and African Studies](#)
- [Oral History](#)
- [Philosophy](#)
- [Political Science](#)
- [Quantitative Methods in the Social Sciences](#)
- [Religion](#)
- [Religion- Journalism](#)
- [Russia, Eurasia, and Eastern Europe: Regional Studies](#)
- [Sociology](#)
- [South Asian Studies](#)
- [Statistics](#)

### Curriculum

Upon acceptance to the BA/MA program and in consultation with the Director of Graduate Studies (DGS), accepted students may enroll in graduate level classes during the final semesters of their undergraduate studies. This coursework will apply to their MA program requirements upon completion of the BA and matriculation at GSAS. BA/MA students may be granted up to 9-12 credits of transfer credit and up to 0.50 residence units (RU) for graduate courses that exceed the 124-credit requirement for the Columbia and Barnard undergraduate degree. These courses may not be applied to fulfill requirements for the undergraduate major, concentration, or general education requirements. One quarter (.25) RU will be granted to students transferring fewer than 9 credits.

### Admissions

Undergraduate students interested in the BA/MA option are advised to consult the DGS and their GS academic advisor in the earlier stages of their undergraduate degree, prior to applying. Applications should be submitted by the semester prior to the one during which students will begin taking classes that will be applied to their MA. Students will not be eligible to apply during their final semester of the senior year to the BA/MA option. At that juncture, they may apply for regular admission to the MA program of their choice using the [GSAS online application](#). Applicants interested in the BA/MA option should not apply to the program using the regular admissions application found on the GSAS website.

### Admission Deadlines

Please refer to the following [admissions deadlines](#).

### Contact Information

For more information regarding the BA/MA option, students should contact their respective undergraduate academic advisor, [gsgadcoaching@columbia.edu](mailto:gsgadcoaching@columbia.edu), and/or relevant DGS.



# MAILMAN SCHOOL OF PUBLIC HEALTH PROGRAMS

The Columbia University Mailman School of Public Health allows highly-qualified General Studies undergraduate and Postbaccalaureate Premedical students to pursue several graduate programs of study in the field of public health. Students interested in the Columbia MPH degree may pursue one of several pathways depending on their interests or eligibility, including the traditional two-year MPH, the Accelerated MPH program, and the Mailman 4+1 program. Applicants interested in the Accelerated MPH program must have at least two years of substantial health-care related work experience at the time of application.

Students interested in Environmental Health Sciences may apply to the Masters of Science degree with a track in Toxicology.

Additionally, GS undergraduate and postbac students may enroll in some of the courses offered at the Mailman School while they are matriculated at General Studies.

There are several advantages of applying to the available programs at the Mailman School of Public Health for GS students.

- Mailman will waive the GRE requirement for students with a minimum undergraduate GPA of 3.5.
- Mailman will waive the application fee for GS students.
- Mailman will help place accepted students in clinical and research settings with Mailman faculty prior to the start of their graduate program.
- Mailman will guarantee enrollment in the undergraduate public health courses that are part of the special concentration in public health to students who have received early acceptance to a Mailman program.

Interested applicants are strongly encouraged to attend the information sessions conducted by the Mailman School of Public Health during New Student Orientation Week and other times in the fall semester.

## MAILMAN SCHOOL OF PUBLIC HEALTH 4+1 DUAL DEGREE PROGRAM

### Program Overview

The 4+1 Dual Degree program with the School of Public Health provides an opportunity for qualified GS students to receive both a liberal arts and a public health education. Undergraduate students from GS have the opportunity to obtain their undergraduate degree and a Masters of Public

Health within five years. As the need for an educated public health workforce grows, as demonstrated by the current COVID-19 crisis, this program will help prepare students to address current global challenges.

### Curriculum

Accepted students will enroll in 15-18 credits of graduate-level credits at Mailman during the fall of their 4th year (and final year of undergraduate studies). These approved Mailman courses will be applied toward the MPH degree and will also count as elective credit toward the 124 points required for the undergraduate degree. Tuition is charged at the undergraduate rate during this semester. Students will complete their remaining undergraduate requirements in the spring of 4th year and will have their BA conferred before matriculating at Mailman in the summer/fall. Upon matriculation at Mailman, during their fifth/final year, students will complete their remaining coursework toward the 42-45 points needed to complete their graduate degree. Students are required to complete at least 42 credits, or 3 full-time semesters at Mailman, while fulfilling the requirements toward their MPH degree.

### Admissions

#### Eligibility

Candidates from all undergraduate majors are invited to apply. Competitive candidates will have nearly all of their core requirements and major requirements completed by the end of their third year, have a GPA that exceeds 3.5, and will not have accrued more than 85 points at the time of submitting their application. Applicants are encouraged to meet with their academic advisor and major advisor as soon as they express an interest in the GS-Mailman 4+1 program to review and discuss their candidacy.

Students must have at least 12 credits earned at Columbia at the time they submit their application.

At minimum, applicants need to successfully complete one quantitative class (MATH 1003, Calculus, or Statistics) from the Columbia Math or Statistics department before applying. Two quantitative classes are encouraged.

Interested students are strongly encouraged to meet with GS graduate school advisor/coach to discuss their application. Students should be sure that all classes from completed semesters show final grades.

#### Application for Admission

Interested applicants must create a long-term academic plan in consultation with their academic advisor in order to confirm their eligibility before they apply and are considered for the program. Final confirmation of eligibility will be determined by the GS Dean of Students office. Students must have a minimum 3.5 GPA at GS. Students in all majors are welcomed to apply. The application deadline is January 15, preceding the fall semester of enrollment. There are no fall



deadline dates, as there is no spring matriculation granted for this program. Students must complete the Mailman Masters in Public Health application.

The application deadline is December 1, preceding the fall semester of enrollment.

### Application Components

- Official transcripts (from all post-secondary academic institutions)
- 500 word Personal statement / Statement of Purpose
- Letters of Recommendation (3)
- Resume or CV
- Optional Addendum
- Standardized Test are waived

### Contact

Please meet with your academic advisor and major advisor in order to develop a long term academic plan. For more information regarding the GS-Mailman 4+1 program, please contact Graduate School Advising at [gs-gradschooladvising@columbia.edu](mailto:gs-gradschooladvising@columbia.edu). Additional information may also be found on the Mailman website.

## MAILMAN SCHOOL OF PUBLIC HEALTH ACCELERATED MPH PROGRAM

### Program Overview

The Accelerated MPH program is available only to students who have at least two years of substantial healthcare experience. Qualified GS students may study for and receive a Master of Public Health (MPH) degree during the year following graduation from GS by pursuing the Mailman Accelerated MPH through the General Public Health Program. The General Public Health Program offers students broader participation in the field of public health as well as formal training in the methods and substantive areas of public health; moreover, it provides a superb foundation for medical education. The General Public Health Program also includes a practicum experience, which provides students with opportunities to apply their academic training within a work setting.

### Curriculum

The structure of the one-year degree program includes five components, carefully timed and integrated, so that learning in one part of the program informs activities and assignments in another.

Students begin the program by immersing themselves in the Mailman Core Curriculum, which offers grounding in the

history and methods of public health, as well as foundational studies of biological and environmental determinants of health; social, behavioral, and structural determinants of health; methods for public health research and programming; and health systems.

Rather than focus on a single discipline within public health, students in the General Public Health track draw their coursework from departments throughout the Mailman School.

In addition, each student is expected to develop and demonstrate improved skills in a technical area, such as research design, program evaluation, health education, health program planning, or administration, as well as select from the School's curriculum, in consultation with their academic advisor, those courses that help meet this objective.

### Admissions

#### Eligibility

Students are eligible to apply for this program if they:

- have completed the Core curriculum, declared a major, and maintained an undergraduate cumulative GPA of at least 3.0
- have received a grade of B+ or better in University Writing (undergraduate students)
- have received a grade of B+ in mathematics and statistics courses (postbac students)
- have taken a mathematics or statistics course at Columbia
- have a minimum of two years of work experience in a health-related field

#### Application Requirements

The following materials must be submitted as part of the required application:

- Required Application | [Apply Here](#)
- GRE scores if the applicant's undergraduate GPA is less than 3.5
- 500 word personal statement describing interest in the program
- Three letters of recommendation from faculty or supervisors
- IELTS or TOEFL scores for international students only
- CV or resume
- Academic transcripts from all previous undergraduate institutions, including GS

#### Admissions Deadlines

- Priority Deadline: December 1
- General Deadline: January 15

Please see [here](#) for more information regarding admissions eligibility, application requirements, admissions timelines, and tuition and fees.

## Contact

For more information on the Accelerated MPH Program, students should contact [Juli Parker \(jp3600@cumc.columbia.edu\)](mailto:jp3600@cumc.columbia.edu) at the Mailman School of Public Health and the [GS graduate school advisor \(gsgradcoaching@columbia.edu\)](mailto:gsgradcoaching@columbia.edu).

## MAILMAN SCHOOL OF PUBLIC HEALTH MS IN ENVIRONMENTAL SCIENCES: TOXICOLOGY

### Program Overview

The Department of Environmental Health Sciences at the [Mailman School of Public Health](#) offers students the opportunity to obtain the [MS degree with a track in Toxicology](#). The program will train students to understand and communicate the effects of exposure to toxic substances from the environment on human health, assess risk and vulnerabilities, devise strategies to minimize exposure, and develop remedies in response to exposure to environmental hazards. In addition to a robust curriculum that prepares students to address the most current topics and methods such as Computational Toxicology, students will have opportunities to gain hands-on experience during their practicum and thesis project. Students will learn laboratory methods in a semester-long lab-based course, gain quantitative skills and receive a Hazardous Waste Operations and Emergency Response (HAZWOPER) certification as part of their Industrial Hygiene course. Upon graduation from the program, students will have the knowledge and expertise to pursue careers within governmental and nongovernmental agencies, industries, and academic or research institutions.

This 12-month MS degree program in [Toxicology](#) from the Mailman School of Public Health is ideal for postbac students seeking to add valuable skills and credentials to their portfolio during their gap year. Students can enroll in an EHS course during their second year of the postbac program. (The course can count towards the MS required credits.)

### Curriculum

Students in the MS Toxicology program will complete a minimum of 40 credits of course work. The requisite three-month practicum will provide students with professional experience in a real work setting, and the mandatory master's research thesis will afford students research training. Please refer to the [complete list](#) of required courses for additional information.

## Admissions

### Eligibility

Competitive applicants to the MS in Toxicology program should have a strong academic foundation in chemistry and biology. Applicants typically have a strong GPA.

### Application Requirements

The following materials must be submitted as part of the required application:

- [Required Application | Apply Here | SOPHAS Application Service](#)
- GRE scores if the applicant's undergraduate GPA is less than 3.5
- 500 word personal statement describing interest in the program
- Three letters of recommendation from faculty or supervisors
- IELTS or TOEFL scores for international students only
- CV or resume
- Academic transcripts from all previous undergraduate institutions, including GS

### Admissions Deadlines

The deadline for admission to the MS Program in Toxicology is June 1 for enrollment in the subsequent fall semester.

Please see [here](#) for more information regarding admissions eligibility, application requirements, admissions timelines, and tuition and fees.

### Contact

[Nina Kulacki \(nj2128@cumc.columbia.edu\)](mailto:njk2128@cumc.columbia.edu) at the Mailman School of Public Health can provide program specific information. Students should also contact the [GS graduate school advisor \(gsgradcoaching@columbia.edu\)](mailto:gsgradcoaching@columbia.edu).

## SEAS COMBINED PROGRAM

### Columbia Engineering Combined Plan Program (3-2 or 4-2 Program)

The Columbia Engineering (SEAS) combined program affords highly qualified students at Barnard, Columbia College, General Studies, and other affiliated institutions the opportunity to obtain a BA from their undergraduate school and a BS in Engineering from SEAS. Applicants may apply in their junior (3-2 program) or senior year (4-2 program). Students will complete the requirements for the BA degree at their home undergraduate institution and then obtain a BS

in Engineering from SEAS over the course of a subsequent two-year period.

## Eligibility

- Students must be enrolled as a full-time student for at least three years.
- A minimum 3.5 GPA is suggested.
- Minimum grade of B or 3.0 for each engineering course is highly recommended.
- Three letters of recommendation from the following: GS advising dean, math instructor, science instructor.
- Successful completion of all prerequisite science and math courses for intended major at SEAS in the semester preceding the intended semester of enrollment at SEAS.
- Completion of all core and major requirements for the BA at General Studies in the semester preceding the intended semester of enrollment at SEAS.
- Demonstrated English language proficiency.
- Satisfactory disciplinary and academic standing at General Studies.

Students should refer to the Curriculum Guide (sample curriculum guide available here) issued for the year they began their undergraduate studies for specific curricular, admissions, and residency requirements.

## Application for Admission

Interested applicants should consult with their advising deans. GS students must have completed the requirements delineated above in the semester preceding their intended first semester at SEAS. Please see the Combined Plan Program Admissions for the current application and deadlines.

## Contact Information

For more information about the SEAS Combined Plan Program, please contact GS Grad Coaching at [gsgadcoaching@columbia.edu](mailto:gsgadcoaching@columbia.edu).

# SEAS MS EXPRESS PROGRAM

The MS Express program affords highly qualified undergraduate applicants from SEAS, Columbia College, Barnard, and General Studies the opportunity to apply to any MS program in engineering at SEAS and matriculate in the semester immediately following their graduation. Interested eligible alumni of these schools may also apply within five years of graduation.

## Advantages of the Program

- Eligible students may begin fulfilling the requirements for the graduate degree during their senior year,

provided that these courses will not be used to fulfill the requirements for the undergraduate degree, thereby reducing the time required to complete the graduate degree.

- During the senior year of their undergraduate program, some students may save tuition by taking graduate classes while paying the undergraduate tuition rate.
- Advanced courses have the same prerequisites that students may have fulfilled while taking science and engineering courses as undergraduates.

## Eligibility

Competitive candidates will have a minimum cumulative GPA of 3.5.

GS students may refer to this chart for additional information regarding eligibility.

## Application for Admission

Interested applicants should consult with their advising deans. The regular application deadline is February 15, and May 1 is the final application deadline (visit the program website for updated deadlines and application requirements). Students must complete the following application and have the following documentation:

- Official transcripts (CU students do not have to send their transcripts)
- Personal statement
- Resume or CV
- Contact information for three references
- No application fee required

## Contact Information

For more information about the SEAS MS Express Program, please contact the GS graduate school advisor ([gsgadcoaching@columbia.edu](mailto:gsgadcoaching@columbia.edu)). Additional information may be also be found on the Graduate Engineering website.

# SIPA DUAL DEGREE PROGRAM

## SIPA Dual Degree/5-Year Program

The Dual Degree program with the Columbia School of International and Public Affairs (SIPA) affords highly qualified undergraduate students from Barnard College, Columbia College, the School of General Studies, and the School of Engineering the opportunity to obtain their undergraduate degree and a Masters of International Affairs (MIA) or Masters of Public Administration (MPA) within five years.

## Advantages of the Program

- Students complete their undergraduate and graduate degree within 5 years, as opposed to the traditional six-year trajectory.
- During the fourth year of the program, students save tuition by taking graduate classes while paying the undergraduate tuition rate.
- The GRE, application fee, and SIPA deposit are waived.

## Curriculum

Accepted students will enroll in graduate level SIPA classes during their final year of undergraduate studies, in addition to any additional undergraduate classes that may be required to complete their undergraduate degrees (typically, 24 points). Most SIPA graduate level courses may be applied towards the MIA or MPA degrees. Additionally, these courses will count toward the 124 points required for the undergraduate degree. Upon matriculation at SIPA during their fifth/final year, students will complete their remaining coursework toward the 54 points needed to complete their graduate degree. Students are required to complete at least 30 credits, or two full-time semesters, in residence at SIPA, while fulfilling the requirements toward their MIA/MPA degree.

## Eligibility

Competitive candidates will have all of their core requirements and major requirement completed by their third year, have a GPA that exceeds 3.5, and will not have accrued more than 100 credits. Applicants are encouraged to meet with their academic advisor as soon as they express an interest in the five-year program with SIPA to review and discuss their candidacy. Completion of considerable coursework in economics, languages, mathematics, political science, and statistics is strongly preferred.

Students enrolled in international dual degree programs (Sciences Po, Trinity College, Tel Aviv University, City University Hong Kong, and Trinity College) are not eligible to apply to the SIPA dual degree/ 5-year program.

## Application for Admission

Interested applicants must have their advising dean confirm their eligibility before they apply for the program. The application deadline is in early January, preceding the fall semester of enrollment, and early October for students interested in enrolling in the following spring semester. Students must complete the following [application](#).

## Contact Information

For more information, please contact the [GS graduate school advisor](#) ([gsgadcoaching@columbia.edu](mailto:gsgadcoaching@columbia.edu)) or [Dean Karina Nguyen](#) ([dr3027@columbia.edu](mailto:dr3027@columbia.edu)). Additional information may be also be found on the [SIPA website](#).

# TRANSFER CREDIT

## TRANSFER CREDIT POLICY

All BA candidates are eligible to transfer up to 60 of the 124 points required for graduation. Admitted students may transfer credit only from the institutions listed on the application for admission at the time the application is submitted to the Office of Admissions. Coursework from institutions not listed on the application for admission will not be considered for transfer credit. Transcripts from all institutions previously attended must be listed on the application form and submitted to the School of General Studies. Failure to report and send transcripts from all schools previously attended is considered academic dishonesty and may result in disciplinary action including rescinding the offer of admissions. In all cases, all transfer credit must be finalized within six months of matriculation.

In general, the School grants transfer credit for a course that satisfies the following criteria:

- It was taken at an accredited college or university.
- It is an academic class consistent with or equivalent to undergraduate courses offered at Columbia University.
- It carries a grade of “C” or higher and is documented by an official transcript.
- It is not a “mini” or intersession course that is less than six weeks in duration (however, coursework completed during a summer session is eligible for transfer credit evaluation).
- The course was not taken after the student matriculated at the School of General Studies. This policy does not apply to students enrolled in the Joint Program with the Jewish Theological Seminary or students enrolled in Columbia-approved study abroad programs. In exceptional cases, as specified in [Study Away from Columbia](#) (p. 694), students may petition the Dean of Students Office to accept coursework taken at another institution after matriculation.

The Office of Admissions and the Dean of Students Office determine the award of transfer credit. The Entrance Credit Report (ECR) and the Core Requirements Checklist specify, respectively, the total number of transfer credits awarded and the Core requirements to which those credits may correspond. Both the ECR and the Core Requirements Checklist are sent electronically soon after notification of acceptance. As noted on the ECR, some pending transfer credit may require further information such as course descriptions and/or syllabi.



## Coursework Completed at Other Institutions During Deferral Period

Students who defer their offers of admission and subsequently receive credit for coursework done elsewhere (between the date of their initial offer of admission and their matriculation at Columbia) may or may not receive Columbia transfer credit for that coursework. In all cases, students must notify the Office of Admissions of their intention to complete coursework at another institution during the deferral period. Failure to do so will result in the student not receiving credit for that coursework, and may also result in the review of the student's admission status. The Office of Admissions reserves the right to rescind the offer of admission based on the results of this review.

## Transfer Credit Toward the Major

Credits from other institutions of higher education do not automatically count toward fulfilling the Columbia major, although they may satisfy Core requirements or be counted as elective credits. Transfer credits toward the major are accepted at the department's discretion and are not always approved. The Director of Undergraduate Studies in each department has the discretion to accept GS-approved transfer credits toward the major. Students must check individual department policies concerning transfer credits.

## Transfer Credit Toward the Core Curriculum

Transfer credits from previous courses taken in related fields of study may count toward the Core Curriculum requirements. However, which credits will be considered to meet the requirements will be determined by a GS Academic Advisor. The [Core Checklist](#) outlines the potential requirements needed to complete a Columbia degree. **Please note:** Core Curriculum courses, Literature Humanities and Contemporary Civilizations, are required for students entering GS with under 30 transfer credits and who have not already fulfilled this requirement through transfer credits.

## Physical Education

While up to 60 transfer credits may be granted, no more than two credits of physical education will be accepted in transfer toward the degree.

## Professional Courses

GS students are permitted only 12 transfer credits of professional studies and fifteen credits of business coursework toward their GS degrees. Professional studies include both pre-professional and professional courses in law, journalism, or information technology, as well as any other courses clearly professional in orientation. Business includes courses in business, marketing, management, accounting, or finance. Any professional course that is listed or cross-listed as an undergraduate course with a Columbia

Arts & Sciences department or the schools of business, journalism, public health, or international and public affairs, is excluded from the twelve-credit limit.

## Non-Degree Coursework

Of the allowed 60 transfer credits, a maximum of 15 credits may transfer from Columbia's School of Professional Studies and Special Programs or any other accredited non-degree program.

## Other Columbia Divisions

Columbia Engineering (SEAS) and Columbia College(CC) undergraduate students considering a transfer to the School of General Studies should meet with their class deans to consider the implications of such a transfer. Students currently enrolled within CC or SEAS, or students who have been away from CC or SEAS for less than three years, must have the support of their academic deans before applying for admission to the School of General Studies; transfer applications to GS from CC or SEAS students will not be accepted without the written endorsement of the relevant school dean. The appropriate academic dean from CC or SEAS should consult with the GS dean of admissions in cases where the student is returning after a break of less than three years. In cases where the student has been away from CC or SEAS for more than three years, express support from the CC/SEAS academic dean is not required, but may be helpful in the admission process. In all cases, applicants to the School of General Studies must have a break of at least one academic year to be eligible to apply for admission, or have compelling personal or professional reasons to attend on a part-time basis.

Students transferring from another division of Columbia University (Columbia College, Barnard College, or Columbia Engineering) may receive up to 94 points in transfer credit toward Columbia GS degree coursework.

For information about taking courses in another division of the University while matriculated at the School of General Studies, see [Study Within Columbia's Graduate and Professional Schools](#) (p. 694).

Students interested in transferring to other Columbia University divisions should consult the [Transfers within Columbia](#) (p. 704) policy under Academic Policies.

## Online Courses

As part of the undergraduate degree program Columbia University does not offer online courses for credit; therefore, online courses are not eligible for transfer credit. Courses will be understood as "online courses" if they are fully transacted online, with no face-to-face contact with the instructor.



**Note:** Online courses were offered and accepted to the degree, as necessary, during the COVID-19 pandemic to the present.

## Repeated Courses

Students who have received credit for a course at Columbia may not receive credit toward the degree for repeating the course unless the specific course description authorizes such repetition. A course taken at another college or university may be repeated at Columbia, but transfer credit for that course will be lost.

## Advanced Credit by Examination

### Advanced Placement

As determined by Columbia, undergraduate students who have achieved satisfactory scores on the College Board tests used in the Advanced Placement Program may be granted credit or be exempted from certain courses or requirements. Any credit will be considered part of the 60-credit transfer maximum. The following conditions apply:

- The relevant departments must approve the use of these examinations.
- Credit awarded under the Advanced Placement Program does not constitute part of the 64 points earned at Columbia required for the GS degree.

Specific details about subject test areas, scores, advanced credit, and placement status can be found under [Advanced Placement Credit](#) (p. 675).

### International Baccalaureate

International Baccalaureate (IB) exams are offered at both the Higher and Subsidiary levels. The School of General Studies awards transfer credit only for exams taken at the Higher level.

Students are awarded the equivalent of one year of transfer credit (typically 6 points) in the relevant discipline for any Higher level exam in which they receive a score 6 or 7. Any transfer credit received, as determined by Admissions, will appear on the student's ECR and will be considered part of the 60-credit transfer maximum. The following conditions apply:

- The relevant departments must approve the use of these examinations.
- Credit so earned is not granted until a student has demonstrated a capacity to do satisfactory advanced work in the overall program.
- Credit awarded for International Baccalaureate Exams does not constitute part of the 64 points earned at Columbia required for the GS degree.

## Advanced Standing for Postbac Premed Students

Credit is not transferred for students in the Postbac Premed Program; however, upon matriculation in the program, students may satisfy course requirements with previously completed courses if the courses were completed recently with grades of C or better and they bear credit at least equal in weight to the corresponding Columbia coursework. The premedical advisor determines such course clearances in consultation with the incoming student, usually at the initial program planning appointment.

## Contact Information

Applicants seeking further information or clarification about advanced placement and credit should contact the Admissions Office by emailing [gs-admit@columbia.edu](mailto:gs-admit@columbia.edu). Students who have matriculated at GS should consult their GS advisor.

# TRANSFERS WITHIN COLUMBIA

**No student enrolled at the School of General Studies may submit an application as a new student to Columbia College or the Fu Foundation School of Engineering and Applied Science while still enrolled in, on leave from, or suspended from the University.**

## Transferring from GS to another Columbia or Affiliated Undergraduate School

Undergraduates enrolled in the School of General Studies, including JTS students, who are interested in transferring to another Columbia or affiliated undergraduate school (Columbia College [CC], the Fu Foundation School of Engineering and Applied Science [SEAS], Barnard College, or List College of the Jewish Theological Seminary [JTS]) should consult with their GS advisor before submitting a transfer application to any of those schools.

Transfer applications from GS to CC, SEAS, or JTS will only be considered by those schools if the student is in good standing and has sound academic reasons for seeking to transfer from GS. It is strongly advised a student speak with their advisor to understand the academic reasons that could be considered. A strong academic record at GS is also vital; while all admissions decisions will be made by the affiliated school, students should seek guidance from their GS advisor.

JTS students who are considering submitting a transfer application to one of the Columbia undergraduate schools, including GS, should also discuss the matter with their respective GS and JTS advisors; transfer to GS is not automatic for JTS students and requires a new application to GS through the Office of Admissions. Both programs must

agree and submit an endorsement to allow the student to complete this transfer.

### Transferring from CC/SEAS to GS

SEAS and CC students considering a transfer to the School of General Studies should seek advice from their Class Deans. Students currently enrolled within CC or SEAS, or students who have been away from CC or SEAS for fewer than three years, must have the support of their academic deans before applying for admission to the School of General Studies; transfer applications to GS from CC or SEAS students will not be accepted without the written endorsement of the relevant school dean. The appropriate academic deans from CC or SEAS should consult with the GS Dean of Admissions on cases where the student is returning after a break of fewer than three years. In cases where the student has been away from CC or SEAS for more than three years, express support from the CC/SEAS academic dean is not required, but may be helpful in the admission process. In all cases, applicants to GS must have a break of at least one academic year or have compelling personal or professional reasons for part-time attendance to be eligible to apply for admission.

### Applying to Other Undergraduate Schools of Columbia University

Applicants may not simultaneously apply to GS and to the other undergraduate divisions of Columbia University (CC or SEAS). Candidates are also ineligible to apply to the School of General Studies if in the last three years they applied to either of these divisions and were not accepted.

### TRANSFERRING WITHIN GS

Postbacs interested in transferring into the Second Bachelor's Degree Program at the School of General Studies should discuss the pros and cons of doing so with their Postbac Program advisor.

## VETERANS BENEFITS AND TRANSITION ACT

In accordance with Title 38 US Code 3679 subsection (e), this school adopts the following additional provisions for any students using U.S. Department of Veterans Affairs (VA) Post 9/11 G.I. Bill<sup>®</sup> (Ch. 33) or Vocational Rehabilitation and Employment (Ch. 31) benefits, while payment to the institution is pending from the VA. This school will not:

- Prevent nor delay the student's enrollment;
- Assess a late penalty fee to the student;
- Require the student to secure alternative or additional funding;
- Deny the student access to any resources available to other students who have satisfied their tuition and fee

bills to the institution, including but not limited to access to classes, libraries, or other institutional facilities.

However, to qualify for this provision, such students will be required to:

- Produce the Certificate of Eligibility by the first day of class;
- Provide written request to be certified;
- Provide additional information needed to properly certify the enrollment as described in other institutional policies, as listed in [Enrollment and Courseload](#).

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