

ENVIRONMENTAL BIOLOGY

Ecology, Evolution & Environmental Biology :

Department website: <http://www.e3b.columbia.edu>

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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

DUS for Evolutionary Biology of the Human Species--Jill Shapiro 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

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 (Associate Chair)
 Peter B. Kelemen
 Folarin Kolawole
 Galen McKinley
 Jerry F. McManus
 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
 Róisín Commane
 Jonathan Kingslake
 Yves Moussallam

Assistant Professors

Folarin Kolawole

Adjunct Professors

Robert F. Anderson
 W. Roger Buck IV
 Denton Ebel
 John J. Flynn
 Andrew R. Juhl
 Alberto Malinverno
 Ronald L. Miller
 Dorothy M. Peteet
 Andrew Robertson
 Joerg M. Schaefer (Director of Undergraduate Studies)
 Christopher Small
 Ajit Subramaniam
 Andreas Thurnherr
 Felix Waldhauser
 Spahr C. Webb

Adjunct Associate Professors

Anne Bécel
 William D'Andrea
 Yutian Wu

Emeritus

Nicholas Christie-Blick
 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.

Major in Environmental Biology: new requirements for students who declare as of March 2025.

Consult the DUS with any questions as to your requirements.

The major in environmental biology requires 42 points, distributed as follows:

Lower Division Courses

Biological Science Foundations: Two courses of introductory or environmental biology. Any two-course biology sequence must include some coverage of ecology, evolution, and ecosystem science. The following sequence is recommended.

EEEE UN2001 ENVIRONMENTAL BIOLOGY I & EEEB UN2002 ENVIRONMENTAL BIOLOGY II

BIOL UN2005 INTRO BIO I: BIOCHEM, GEN, MOLEC, BIOL UN2006 INTRO BIO II: CELL BIO, DEV/PHYS, and BIOL BC1502 INTRO CELL AND MOLECULAR BIOL can substitute for EEEB UN2001. BIOL BC1500 INTRO ORGANISMAL/EVOL BIOL can substitute for EEEB UN2002.

Physical Science Foundations: Two to four courses in physical sciences totaling at least 8 points. Students should choose one of the following sequences.

CHEM UN1403 GENERAL CHEMISTRY I-LECTURES & CHEM UN1404 GENERAL CHEMISTRY II-LECTURES (or a more advanced chemistry sequence totaling at least 8 points)

EESC UN2100 EARTH'S ENVIRO SYST: CLIM SYST & EESC UN2200 EARTH'S ENVIRONMENTAL SYSTEMS: THE SOLID EARTH (or a more advanced combination of climate and earth science courses totaling at least 8 points)

PHYS UN1201 GENERAL PHYSICS I, PHYS UN1202 GENERAL PHYSICS II, PHYS UN1291 GENERAL PHYSICS I LAB, PHYS UN1292 GENERAL PHYSICS II LABORATORY (or a more advanced physics sequence totaling at least 8 points)

Quantitative Foundations: Three courses totaling at least 9 points from the following subject areas:

Statistics (EEEE UN3005 INTRO-STAT-ECOLOGY # EVOL BIOL recommended; can substitute with STAT UN1101 INTRODUCTION TO STATISTICS or more advanced statistics course). At least one course in statistics is strongly recommended for the major.

Mathematics (MATH UN1101 CALCULUS I or a more advanced mathematics course)

Computer Science (COMS W1004 PROGRAMMING IN JAVA or a more advanced computer science course). Courses based on computing applications taught outside the computer science department (e.g., courses in GIS) can also satisfy this requirement. Check with major advisor for approval of specific courses.

Upper Division Courses

Advanced electives in Ecology, Evolution, or Environmental Biology: Five courses. All courses must be at least 3 points and at least one course must have a laboratory component.

These courses are generally 3000-level or above and taught in EEEB, Biology, Barnard Biology, Sustainable Development, Earth and Environmental Science, and Barnard Environmental Science, but courses from other departments can be approved. Appropriate Barnard Biology and Barnard Environmental Sciences at the 2000-level are generally approved. Check with major advisor for approval of specific courses.

Students should 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. The thesis is strongly recommended for all majors, but in cases where a student cannot complete a thesis, additional advanced electives or workshop courses can substituted in place of the thesis. Students should consult with the major advisor about plans for the thesis.

Major in Environmental Biology: for students who entered in or before the 2024-25 academic year.

Consult the DUS with any questions as to your requirements.

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
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: for students who entered in or before the 2024-25 academic year.

Consult the DUS with any questions as to your requirements.

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
STAT UN1201	CALC-BASED INTRO TO STATISTICS

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 - 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 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

EEEB UN1010	HUMAN ORIGINS # EVOLUTION
EEEB 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

EEEB 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

EEEB UN3970 Biol Basis Of Human Variation	
EEEB GU4340	HUMAN ADAPTATION
EEEB 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 EBHS SENIOR THESIS SEMINAR
& EEEB UN3994 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 EEEB UN2001 ENVIRONMENTAL BIOLOGY I or EEEB 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
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:mp2434@columbia.edu) (mp2434@columbia.edu) advises students who have a broad organismal/ecosystem focus corresponding to interests in the EB program; Jill Shapiro jss19@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:

EEEE 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:

EEEE 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

EEEE 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 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 (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
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).

Fall 2025

EEEEB UN1010 HUMAN ORIGINS # EVOLUTION. 3.00 points.

CC/GS: Partial Fulfillment of Science Requirement
Lab fee: \$25. Taught every fall.

This is an introductory course in human evolution. Building on a foundation of evolutionary theory, students explore primate behavioral morphology and then trace the last 65 million years of primate evolution from the earliest Paleocene forms to the fossil remains of earliest humans and human relatives. Along with Behavioral Biology of the Living Primates this serves as a core required class for the EBHS program

Fall 2025: EEEB UN1010

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEEB 1010	001/13625	M W 11:40am - 12:55pm 602 Hamilton Hall	Jill Shapiro	3.00	32/86
EEEEB 1010	AU1/17983	M W 11:40am - 12:55pm Othr Other	Jill Shapiro	3.00	4/4

EEEEB UN1110 HUMAN ORIGINS # EVOLUTION-DISC. 0.00 points.

Fall 2025: EEEB UN1110

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEEB 1110	001/13627	Th 5:10pm - 6:00pm 506 Schermerhorn Hall	Jill Shapiro	0.00	23/30
EEEEB 1110	002/13628	Th 6:10pm - 7:00pm 506 Schermerhorn Hall	Jill Shapiro	0.00	9/30

EEEEB UN2001 ENVIRONMENTAL BIOLOGY I. 3.00 points.

CC/GS: Partial Fulfillment of Science Requirement

Introductory biology course for majors in biology or environmental biology, emphasizing the ecological and evolutionary context of modern biology

Fall 2025: EEEB UN2001

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEEB 2001	001/13630	M W 1:10pm - 2:25pm 420 Pupin Laboratories	Andres Bendesky, Shahid Naeem	3.00	31/50

EEEEB UN3005 INTRO-STAT-ECOLOGY # EVOL BIOL. 3.00 points.

Prerequisites: some background in ecology, evolutionary biology, and/or statistics is recommended.

Intended for those WITHOUT prior knowledge of statistics. Some background in ecology, evolutionary biology required. This is an introduction to the theoretical principles and practical application of statistical methods in ecology and evolutionary biology. The course will cover the conceptual basis for a range of statistical techniques through a series of lectures using examples from the primary literature. The application of these techniques will be taught through the use of statistical software in computer-based laboratory sessions

Fall 2025: EEEB UN3005

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEEB 3005	001/13631	M 6:10pm - 8:00pm 622 Dodge Building	Steffen Foerster	3.00	16/35

EEEEB UN3015 INTRO-STAT-ECOLGY/EVOL BIO-LAB. 0.00 points.

Required Lab for EEEB UN3005. An introduction to the theoretical principles and practical application of statistical methods in ecology and evolutionary biology. The course will cover the conceptual basis for a range of statistical techniques through a series of lectures using examples from the primary literature. The application of these techniques will be taught through the use of statistical software in computer-based laboratory sessions

Fall 2025: EEEB UN3015

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEEB 3015	001/13633	T 6:10pm - 7:25pm 1015 Ext Schermerhorn Hall	Steffen Foerster	0.00	8/20
EEEEB 3015	002/13634	W 6:10pm - 7:25pm 1015 Ext Schermerhorn Hall	Steffen Foerster	0.00	8/20

EEEEB UN3240 Challenges and Strategies of Primate Conservation. 3 points.

CC/GS: Partial Fulfillment of Science Requirement
Enrollment limited to 20. Priority given to EBHS students.

Prerequisites: EEEB UN1010 or EEEB UN1011 or *EEEEB W1010* Human Species or *EEEEB W1011* Behavioral Biology of Living Primates or the instructor's permission.

Throughout their range, numerous primate species are on the brink of extinction. This course examines the central issues relating to conservation of wild primates and explores strategies and solutions for preserving these endangered populations. Through the analysis of the ecological and social traits linked to vulnerability and the direct and indirect threats from human activities, students will gain a practical understanding of how to develop successful, sustainable, and practical conservation strategies.

Fall 2025: EEEB UN3240

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEEB 3240	001/13637	T Th 10:10am - 11:25am 327 Uris Hall	Alba Lucia Morales Jimenez	3	7/15

EEEEB UN3919 TRADING NATURE. 4.00 points.

This course explores the scientific and theoretical conceptualization of nature as a market commodity, through the lens of conservation biology. Students will engage in critical analysis of the 'traditional' forms in which biodiversity has been appropriated as inputs into markets such as fisheries, resource extraction, bushmeat and medicine, as well as new market environmentalism

Fall 2025: EEEB UN3919

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEEB 3919	001/13638	M 2:10pm - 4:00pm 1015 Ext Schermerhorn Hall	Mary Blair	4.00	6/12

EEEB UN3940 Current Controversies in Primate Behavior and Ecology. 4 points.

CC/GS: Partial Fulfillment of Science Requirement
 Taught every two years. Enrollment limited to 15.

Prerequisites: EEEB UN1011 *EEEB W1011* or the equivalent.

Critical in-depth evaluation of selected issues in primate socioecology, including adaptationism, sociality, sexual competition, communication, kinship, dominance, cognition, and politics. Emphasizes readings from original literature.

Fall 2025: EEEB UN3940

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 3940	001/13639	W 2:10pm - 4:00pm 522a Kent Hall	Marina Cords	4	5/12

EEEB UN3991 THESIS RESEARCH SEMINAR. 3.00 points.

Open only to seniors.

Guided, independent, indepth research experience culminating in the senior essay. Weekly meetings are held to review work in progress, to share results through oral and written reports, and to consider career options for further work in this field

Fall 2025: EEEB UN3991

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 3991	001/13640	Th 4:10pm - 6:00pm 405 Milbank Hall	Matthew Palmer	3.00	8/20

EEEB UN3993 EBHS SENIOR THESIS SEMINAR. 3.00 points.

Four points for the year-long course.

Prerequisites: the instructor's permission and senior standing as a major in The Evolutionary Biology of the Human Species (EBHS).

Prerequisites: the instructor's permission and senior standing as a major or concentrator in The Evolutionary Biology of the Human Species (EBHS). Year-long seminar in which senior EBHS majors develop a research project and write a senior thesis. Regular meetings are held to discuss research and writing strategies, review work in progress, and share results through oral and written reports

Fall 2025: EEEB UN3993

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 3993	001/13641	M 4:10pm - 6:00pm 1020 Schermerhorn Hall	Jill Shapiro	3.00	2/6

EEEB UN3997 INDEPENDENT STUDY. 1.00-3.00 points.

CC/GS: Partial Fulfillment of Science Requirement

Students conduct research in environmental biology under supervision of a faculty mentor. The topic and scope of the research project must be approved before the student registers for the course

Fall 2025: EEEB UN3997

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 3997	001/13642		Jill Shapiro	1.00-3.00	1/6
EEEB 3997	002/20127		Marina Cords	1.00-3.00	1/3
EEEB 3997	003/20143		Andres Bendesky	1.00-3.00	1/3

EEEB GU4065 Tropical Biology. 4.00 points.

Study ecology, evolution, and conservation biology in one of the world's most biologically spectacular settings, the wildlife-rich savannas of Kenya. Although we will meet have a few meetings during the fall semester, the majority of the coursework will be completed during a 16 day field trip to Kenya during winter break. Students will spend their time immersed in an intensive field experience gaining sophisticated training in fieldwork and biological research. Note that there is a lab fee to cover all in-country expenses, and students are also responsible for the cost of airfare to and from Kenya

Fall 2025: EEEB GU4065

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 4065	001/13643		Dustin Rubenstein	4.00	13/14

EEEB GU4111 Ecosystem Ecology and Global Change. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

This course will provide an introduction to ecosystem ecology. Topics include primary production carbon storage, nutrient cycling, and ecosystem feedbacks to climate change. By the end of the course, students will be well versed in the basics of ecosystem ecology and have exposure to some current areas of research. Topics covered will include some aspects that are well established and others that are hotly debated among scientists. Throughout the course, students will be encouraged to think independently and act like research scientists.

Fall 2025: EEEB GU4111

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 4111	001/13644	T Th 11:40am - 12:55pm 1015 Ext Schermerhorn Hall	Duncan Menge	3	17/25

EEEB GU4200 Introduction to Mammalogy. 3.00 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: introductory course in Biology or Evolution.

This taxon-based course provides students with a basic understanding of the diversity and natural history of the mammals. Broad coverage of mammalian biology includes: morphological adaptations, evolutionary history and biogeography

Fall 2025: EEEB GU4200

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 4200	001/13645	Th 6:10pm - 8:00pm 1015 Ext Schermerhorn Hall	Scott LaPoint	3.00	8/12

EEEB GU4650 Biodiversity and Ecosystem Processes. 3 points.

Prerequisites: E3B courses in ecology, evolution and/or biodiversity or the instructor's permission.

Survey of current advances in scientific research that focuses on the role biodiversity plays in governing ecological processes (e.g., biogeochemistry, resisting invasion by exotic species, or stabilizing communities) and ecosystem services (e.g., soil fertility, water quality, climate regulation).

EEEE GU4666 Insect Diversity. 4 points.

Enrollment limited to 25. Priority given to undergraduate environmental biology majors.

Introduction to phylogenetic relationships, evolution, and ecology of the major groups of arthropods, with emphasis on insects. Lab: identification of common families of spiders and insects of the northeastern United States.

Fall 2025: EEEB GU4666

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 4666	001/13646	T 2:00pm - 3:50pm 1015 Ext Schermerhorn Hall	Bekka Brodie	4	6/30
EEEE 4666	001/13646	W 5:00pm - 8:00pm 502 Northwest Corner	Bekka Brodie	4	6/30

EEEE GU4910 Field Botany and Plant Systematics. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

Course fee: \$50. Enrollment limited to 14. Priority given to E3B graduate students.

Prerequisites: introductory biology sequence, including organismal biology.

A survey of vascular plants with emphasis on features of greatest utility in identifying plants in the field to the family level. This will be coupled with a survey of the major plant communities of northeastern North America and the characteristic species found in each. The course will consist of one lecture and one laboratory per week with several lab sessions extended to accommodate field trips to local and regional natural areas.

Fall 2025: EEEB GU4910

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 4910	001/13647	W 11:40am - 12:55pm 1015 Ext Schermerhorn Hall	Matthew Palmer	4	16/15
EEEE 4910	001/13647	F 9:00am - 1:00pm 207 Schermerhorn Hall	Matthew Palmer	4	16/15

Spring 2026

EEEE UN1011 BEHAVIOR BIOL-LIVING PRIMATES. 3.00 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: Corequisite EEEB UN1111 Study of non-human primate behavior from the perspective of phylogeny, adaptation, physiology and anatomy, and life history. Focuses on the four main problems primates face: finding appropriate food, avoiding being eaten themselves, reproducing in the face of competition, and dealing with social partners. Along with Human Origins - Evolution, this serves as a core required class for the EBHS program

Spring 2026: EEEB UN1011

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 1011	001/13083	M W 1:10pm - 2:25pm 516 Hamilton Hall	Marina Cords	3.00	23/50

EEEE UN1111 BEHAVIORAL BIOL-DISC. 0.00 points.

Spring 2026: EEEB UN1111

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 1111	001/13086	W 6:10pm - 7:00pm 1015 Ext Schermerhorn Hall	Marina Cords	0.00	13/25
EEEE 1111	002/13091	F 11:10am - 12:00pm 411 Kent Hall	Marina Cords	0.00	10/25

EEEE UN2002 ENVIRONMENTAL BIOLOGY II. 4.00 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: EEEB UN2001 *EEEE W2001*.

Prerequisites: EEEB UN2001 Second semester of introductory biology sequence for majors in environmental biology and environmental science, emphasizing the ecological and evolutionary aspects of biology. Also intended for those interested in an introduction to the principles of ecology and evolutionary biology

Spring 2026: EEEB UN2002

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 2002	001/13096	M W 11:40am - 12:55pm 501 Northwest Corner	Matthew Palmer	4.00	17/40

EEEE UN3087 CONSERVATION BIOLOGY. 3.00 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: introductory organismal biology course, ideally *EEEE W2002*.

Prerequisites: Science majors should have completed one introductory course that covers biology, ecology, evolution or conservation prior to taking this course. Non-science majors should have some exposure to these same topics but are not required to have taken courses in advance of this class

Spring 2026: EEEB UN3087

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 3087	001/13098	M 6:10pm - 8:00pm 603 Schermerhorn Hall	Dustin Partridge	3.00	27/30

EEEE UN3187 CONSERVATION BIOLOGY-DISC. 0.00 points.

Spring 2026: EEEB UN3187

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 3187	001/13104	W 6:10pm - 7:00pm 412 Pupa Laboratories	Dustin Partridge	0.00	20/20
EEEE 3187	002/13105	Th 6:10pm - 7:00pm 652 Schermerhorn Hall	Dustin Partridge	0.00	7/20

EEEB UN3215 FORENSIC OSTEOLOGY. 3.00 points.

CC/GS: Partial Fulfillment of Science Requirement
 Taught every other year. Enrollment limited to 15. Priority given at first class session to EBHS majors/concentrators.

Prerequisites: no prior experience with skeletal anatomy required. Not appropriate for students who have already taken either *EEEE G4147* or *EEEE G4148*.

Prerequisites: no prior experience with skeletal anatomy required. Not appropriate for students who have already taken either *EEEE GU4147* or *EEEE GU4148*. An exploration of the hidden clues in your skeleton. Students learn the techniques of aging, sexing, assessing ancestry, and the effects of disease, trauma and culture on human bone

Spring 2026: EEEB UN3215

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 3215	001/13163	M W 4:10pm - 6:00pm 506 Schermerhorn Hall	Jill Shapiro	3.00	12/15

EEEB UN3320 Biological Interactions in a Changing World. 3.00 points.

Coevolutionary processes, where species exert selective pressure on each other, are the outcome of many of the most fascinating relationships in biology, such as predator-prey, host-pathogen, mutualisms, and competitive interactions. In this course, we will walk through the theoretical frameworks and empirical examples that explain how coevolution influences biodiversity, adaptation, and ecosystems. Students will gain a deep understanding of how interactions operate across various scales—from molecular to ecological—and how they influence the evolution of species in response to each other. Key topics include evolutionary arms races, mimicry, symbioses, and the impact of coevolution on community structure. In addition to learning about the various types of interactions, students will learn how we scientifically investigate biotic interactions using modern research methods, like field studies, molecular techniques, and mathematical modeling. Through lectures, readings, case studies, and research-based projects, students will develop the skills to critically assess coevolutionary processes and their role in shaping the natural world. The course will also cover the practical implications of coevolution for conservation, agriculture, and health

Spring 2026: EEEB UN3320

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 3320	001/16840	T Th 2:40pm - 3:55pm 506 Schermerhorn Hall	Rachel Cohen	3.00	6/20

EEEB UN3910 THE NEANDERTALS. 4 points.

CC/GS: Partial Fulfillment of Science Requirement
 Offered every other year/rotating with Dynamics of Human Evolution. Enrollment limited to 13. Priority given at first class session to EBHS majors/concentrators.

Prerequisites: *EEEE W1010* Human Species or *ANTH V1007*.

One hundred and fifty years after discovery Neandertals remain one of the most enigmatic hominin taxa. What do we understand today about their biology, subsistence, culture, cognitive abilities and eventual fate? Are they simply extinct relatives or do their genes continue in many of us today? In this seminar students critically examine the primary research as we attempt to find answers to some of these questions.

Spring 2026: EEEB UN3910

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 3910	001/13168	T 2:10pm - 4:00pm 652 Schermerhorn Hall	Jill Shapiro	4	9/12

EEEB UN3992 THESIS RESEARCH SEMINAR. 3.00 points.

Guided, independent, indepth research experience culminating in the senior essay. Weekly meetings are held to review work in progress, to share results through oral and written reports, and to consider career options for further work in this field

Spring 2026: EEEB UN3992

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 3992	001/13188	Th 4:10pm - 6:00pm 405 Milbank Hall	Matthew Palmer, Lukas Musher, Maria Strangas	3.00	9/20

EEEB UN3994 EBHS SENIOR THESIS SEMINAR. 3.00 points.

Prerequisites: the instructors permission and senior standing as a major in The Evolutionary Biology of the Human Species (EBHS). Year-long seminar in which senior EBHS majors develop a research project and write a senior thesis. Regular meetings are held to discuss research and writing strategies, review work in progress, and share results through oral and written reports

Spring 2026: EEEB UN3994

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 3994	001/13195	T 5:30pm - 7:30pm 1020 Schermerhorn Hall	Jill Shapiro	3.00	2/6

EEEB UN3998 INDEPENDENT STUDY. 1.00-3.00 points.

CC/GS: Partial Fulfillment of Science Requirement

Students conduct research in environmental biology under supervision of a faculty mentor. The topic and scope of the research project must be approved before the student registers for the course

Spring 2026: EEEB UN3998

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEE 3998	001/13206		Jill Shapiro	1.00-3.00	0/6
EEEE 3998	002/18062		Dustin Partridge	1.00-3.00	2/2
EEEE 3998	003/20201		Andres Bendesky	1.00-3.00	2/2
EEEE 3998	004/20390		Marina Cords	1.00-3.00	0/2

EEEB GU4055 Principles and Applications of Modern DNA Sequencing. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Genome sequencing, the technology used to translate DNA into data, is now a fundamental tool in biological and biomedical research, and is expected to revolutionize many related fields and industries in coming years as the technology becomes faster, smaller, and less expensive. Learning to use and interpret genomic information, however, remains challenging for many students, as it requires synthesizing knowledge from a range of disciplines, including genetics, molecular biology, and bioinformatics. Although genomics is of broad interest to many fields, such as ecology, evolutionary biology, genetics, medicine, and computer science, students in these areas often lack sufficient background training to take a genomics course. This course bridges this gap, by teaching skills in modern genomic technologies that will allow students to innovate and effectively apply these tools in novel applications across disciplines. To achieve this, we implement an active learning approach to emphasize genomics as a data science, and use this organizing principle to structure the course around computational exercises, lab-based activities using state-of-the-art sequencing instruments, case studies, and field work. Together, this approach will introduce students to the principles of genomics by allowing them to generate, analyze, and interpret data hands-on while using the most cutting-edge genomic technologies of today in a stimulating and engaging learning experience.

Spring 2026: EEEB GU4055

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 4055	001/13238	M W 1:10pm - 2:25pm 1015 Ext Schermerhorn Hall	Andres Bendesky	3	8/16

EEEB GU4105 Intermediate Statistics for Ecology and Evolutionary Biology. 3.00 points.

This course builds on an introductory course in statistics and dives deeper into linear regression models, including generalized linear models, mixed/hierarchical models, model diagnostics, and model selection. It focuses on the practical applications of these methods rather than the mathematical complexities. A prior course or equivalent knowledge of fundamental concepts in statistics as well as familiarity with R programming are required pre-requisites for this course

Spring 2026: EEEB GU4105

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 4105	001/13242	T 6:10pm - 7:00pm 1015 Ext Schermerhorn Hall	Steffen Foerster	3.00	12/20
EEEB 4105	001/13242	M 6:10pm - 8:00pm 1015 Ext Schermerhorn Hall	Steffen Foerster	3.00	12/20

EEEB GU4112 Ichthyology. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Fish are an incredibly diverse group with upwards of 27,000 named species. They are important ecologically, represent one of the major vertebrate lineages and face numerous conservation threats. This course will provide students with the tools to understand how the evolution, systematics, anatomy, and diversity of fishes influence their conservation status.

Spring 2026: EEEB GU4112

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 4112	001/13243	F 10:10am - 12:40pm 1015 Ext Schermerhorn Hall	Pedro Braganca	3	16/18

EEEB GU4126 INTRO TO CONSERVATION GENETICS. 3.00 points.

In this course, we will use evolutionary genetic principles and population genetic models to describe the extent and distribution of genetic variation in populations and species, and determine ways to conserve it. A basic knowledge of genetics and mathematics is assumed.

Spring 2026: EEEB GU4126

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 4126	001/13245	Th 10:10am - 12:00pm 1015 Ext Schermerhorn Hall	Rachel Welt	3.00	7/15

EEEB GU4135 URBAN ECOLOGY # DESIGN. 3.00 points.

Spring 2026: EEEB GU4135

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 4135	001/13247	T 12:10pm - 2:00pm 303 Uris Hall	Matthew Palmer	3.00	33/45

EEEB GU4192 INTRO TO LANDSCAPE ANALYSIS. 3.00 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: SDEV W3390 or EESC W4050 or the instructors permission. This class provides basic theory in landscape analysis and training in methods for analyzing landscapes, focusing on interpretation of satellite images. The class covers approaches and definitions in landscape analysis, data sources, land cover classification, change detection, accuracy assessment, projections of future land cover change, and techniques to interpret results of these analyses. Students will obtain hands-on experience working with data from a landscape related to his/her research or a landscape chosen by the instructors

Spring 2026: EEEB GU4192

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 4192	001/13250	M 8:40am - 11:25am 1015 Ext Schermerhorn Hall	Marcia Macedo, Jay Schoen	3.00	17/25

EEEB GU4201 ECO, BEHAVIOR # CONSERVATION OF MAMMALS. 3.00 points.

CC/GS: Partial Fulfillment of Science Requirement

This course examines the wide ranging aspects of features of mammalian natural history, behavior and ecology, and considers the implications of these features on the conservation status of particular mammal taxa for the future. We will also explore particular conservation challenges for mammals such as bats, grazing mammals, and large carnivores in increasingly human-dominated landscapes. This course will be a combination of lecture and student led discussions related to the conservation issues facing mammals today.

Spring 2026: EEEB GU4201

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 4201	001/13254	Th 6:10pm - 8:00pm 1015 Ext Schermerhorn Hall	Scott LaPoint	3.00	12/12

EEEB GU4340 HUMAN ADAPTATION. 3.00 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: *EEEB W1010* Human Species or *ANTH V1007* Origins of Human Society or the instructor's permission.

This course explores human adaptation from a biological, ecological and evolutionary perspective. From our earliest hominin ancestors in Africa to our own species' subsequent dispersal throughout the world, our lineage has encountered innumerable environmental pressures. Using morphological, physiological and behavioral/cultural evidence, we will examine the responses to these pressures that helped shape our unique lineage and allowed it to adapt to a diverse array of environments

Spring 2026: EEEB GU4340

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 4340	001/16846	T Th 11:40am - 12:55pm 608 Schermerhorn Hall	Volney Friedrich	3.00	12/18

EEEB GU4670 Introduction to Geographical Information Systems. 3.00 points.

Geographic information systems (GIS) are powerful tools for analyzing fundamental geographic questions. GIS involves generating, linking, manipulating, and analyzing different sorts of spatial data; creating outputs commonly visualized as two- and sometimes three- dimensional maps. This course will cover major topics in GIS with applications for the broad field of biology and natural sciences, using QGIS and R. The goal of this course is to teach students a level of GIS proficiency such that they will be self-sufficient in their further learning and use of GIS

Spring 2026: EEEB GU4670

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
EEEB 4670	001/13258	Th 12:10pm - 2:00pm 1015 Ext Schermerhorn Hall	Viorel Popescu	3.00	34/34

Of Related Interest

Economics

ECON GU4625 ECONOMICS OF THE ENVIRONMENT

Earth and Environmental Sciences

EESC UN2330 SCIENCE FOR SUSTAINABLE DEVPT

EESC GU4050 GLOBAL ASSMT-REMOTE SENSING

EESC GU4550 Plant Ecophysiology

EESC GU4835 Wetlands and Climate Change

Political Science

POLS GU4730

GAME THEORY # POLIT THEORY