

PSYCHOLOGY

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The Department of Psychology (<https://psychology.columbia.edu/>) 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 (<https://psychology.columbia.edu/content/psychology-major/>) or in Neuroscience and Behavior (<https://psychology.columbia.edu/content/neuroscience-behavior-major/>).

Program Goals

The department's program goals (<https://psychology.columbia.edu/content/psychology-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 (<https://psychology.columbia.edu/content/psychology-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.

Research Participation

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 (<https://psychology.columbia.edu/content/supervised-individual-research/>) Supervised Individual Research), or participate in the department's two-year Honors Program (<https://psychology.columbia.edu/content/honors-program/>). Information on faculty research (<https://psychology.columbia.edu/content/faculty/>) is available on the departmental website. Students are advised to read about research laboratories on faculty lab sites (<https://psychology.columbia.edu/content/lab-websites/>) and visit the professor's office hours to discuss opportunities. At the beginning of the fall term, the department also hosts a Lab-Preview (<https://psychology.columbia.edu/sites/default/files/content/Lab%20Preview%20Handout%20Fa18%20-%20Final.pdf>) event for students to learn about research opportunities (<https://psychology.columbia.edu/content/research-opportunities/>) for the upcoming semester.

Program Planning

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 (<https://psychology.columbia.edu/content/program-planning-tips/>). All majors and concentrators in Psychology (<https://psychology.columbia.edu/content/psychology-major/>) and majors in Neuroscience and Behavior (<https://psychology.columbia.edu/content/neuroscience-behavior-major/>) should complete a Major Requirement Checklist (<https://psychology.columbia.edu/content/major-concentration-requirement-checklists/>) before consulting a program adviser to discuss program plans. At minimum, all students must submit a Major Requirement Checklist (<https://psychology.columbia.edu/content/major-concentration-requirement-checklists/>) 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.

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 (<https://psychology.columbia.edu/content/advising/>).

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 (<https://psychology.columbia.edu/content/elizabeth-walters/>) in the departmental office. Program Adviser assignments (<https://psychology.columbia.edu/content/advisors/>) 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 (<https://psychology.columbia.edu/content/advising/>).

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 (uca@psych.columbia.edu) in the departmental office.

Guide to Course Numbers

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. 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*).

A fourth category of distribution, the *900s*, includes courses such as Advanced Topics in Psychology Research for undergraduates (UN1910, UN1930, and UN1990), and for both graduates and undergraduates (GU4930).

Note that Barnard psychology courses do not follow the same numbering scheme.

Honors Program

The department offers a two-year Honors Program (<https://psychology.columbia.edu/content/honors-program/>), designed for a limited number of juniors and seniors interested in conducting original research. Beginning in the first term of junior year and continuing through senior year, students take PSYC UN3910 Honors Seminar and simultaneously participate in an honors research course (PSYC UN3920 Honors Research) under the supervision of a member of the department. Students make a formal presentation and complete an honors essay based on this research toward the end of their senior year.

To qualify for honors, students must take a total of 6 points beyond the number required for their major and satisfy all other requirements for the major. The additional 6 points may include the *Honors Seminar* and *Honors Research* courses. **Interested students should apply at the end of their sophomore year, and are also required to identify and meet with a potential faculty mentor prior to applying.** Instructions and an application form are available on the Honors Program page of the department website. Typically no more than 10% of graduating majors receive departmental honors in a given academic year.

Requirements for Admission to Graduate Programs in Psychology

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	Introductory Statistics for Behavioral Scientists
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PSYC UN1660	Advanced Statistical Inference
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STAT UN1001	Introduction to Statistical Reasoning
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STAT UN1101	Introduction to Statistics
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STAT UN1201	Calculus-Based Introduction to Statistics
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A laboratory course in research methods such as one of the following:

PSYC UN1420	RESEARCH METHODS - HUMAN BEHAVIOR
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PSYC UN1450	RESEARCH METHODS - SOCIAL COGNITION # EMOTION
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PSYC UN1455	RESEARCH METHODS: SOCIAL/ PERSONALITY
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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 very strongly encouraged to participate in a research lab and enroll in PSYC UN3950 (<http://bulletin.columbia.edu/search/?P=PSYC%20UN3950>) Supervised Individual Research. Students are also encouraged to apply for the Psychology Honors Program at the end of their sophomore 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 (<https://psychology.columbia.edu/content/emett-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 (<https://psychology.columbia.edu/>).

Online Information

The Department of Psychology website (<https://psychology.columbia.edu/>) 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 (uca@psych.columbia.edu).

Science Requirement

PSYC UN1001 The Science of Psychology, PSYC UN1010 Mind, Brain and Behavior (no longer offered), and any PSYC course in the 2200- or 2400-level may be used to fulfill the science requirement.

2600-level 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.

With prior departmental approval, 3- and 4-point courses numbered in the 32xx, 34xx, 42xx, and 44xx, and some additional courses, may partially fulfill the science requirement. For more detailed information regarding psychology courses that may be applied toward the science requirement, see Core Requirements (<http://bulletin.columbia.edu/general-studies/undergraduates/degree-fulfillment/core/>) in the General Studies bulletin.

Evening and Columbia Summer Courses

The department normally offers at least one lab course (currently PSYC UN1420 RESEARCH METHODS - HUMAN BEHAVIOR and PSYC UN1450 RESEARCH METHODS - SOCIAL COGNITION # EMOTION) in the late afternoon with evening labs. A number of other courses are occasionally offered in late afternoon and evening hours. No more than one quarter of the courses required for the major are normally available in the evening. Working students may find the wide variety of early morning (8:40 a.m.) classes, as well as Summer Session offerings, helpful in completing degree requirements.

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 S1001D The Science of Psychology meets

the same major requirements as does PSYC UN1001 The Science of Psychology.

See Summer Courses (<https://gs.columbia.edu/summer-courses/>) for policies governing Summer Session courses.

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)
Shige Oishi (Visiting Professor)
Rae Silver (Barnard)
Daphna Shohamy
Herbert Terrace
Nim Tottenham
Sarah M.N. Woolley

Associate Professors

Valerie Purdie-Greenaway
Randy Auerbach (Psychiatry)

Assistant Professors

Mariam Aly
Christopher Baldassano
Larisa Heiphetz
Sarah Canetta (Psychiatry)

Lecturers in Discipline

Katherine Fox-Glassman
Patricia Lindemann
Caroline Marvin
Alfredo Spagna

Adjunct Faculty

Nadav Antebi-Gruszka
Usha Barahmand
Tal Ben-Shahar
Jennifer Blaze
Helen Brew
Jeffrey Cohen
Frances Champagne
James Curley
Irit Felsen
David Friedman
Hannah Hoch
Nora Isacoff
Trenton Jerde
Tina Kao
Karen Kelly
Svetlana Komissarouk
E'mett McCaskill

Michele Miozzo
 Melanie Pincus
 Jenna Reinen
 Svetlana Rosis
 Eric Schoenberg

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 (<https://www.college.columbia.edu/news/committee-instruction-announces-updated-academic-policy/>).

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 (https://psychology.columbia.edu/sites/default/files/content/bc_overlapping%2002.06.19.pdf) 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 (<https://psychology.columbia.edu/content/psychology-major/>), Psychology concentration (<https://psychology.columbia.edu/content/psychology-concentration/>), or Neuroscience and Behavior major (<https://psychology.columbia.edu/content/neuroscience-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 (<https://psychology.columbia.edu/content/major-concentration-requirement-checklists/>) 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. 4) above.

The Psychology Major requirements changed in 2020. Students entering an undergraduate degree program at Columbia in Fall 2020 or later must complete the new major requirements. Students who entered Columbia prior to Fall 2020 may choose to complete either the new major requirements or the old ones.

New Major Requirements (for students entering Fall 2020 or later)

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.

Old Major Requirements (for students entering 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

See below for details on each of these requirements. Note that no course may be counted twice in fulfillment of the major requirements.

The Introductory Psychology Course

- PSYC UN1001 The Science of Psychology

A Statistics Course

Select one of the following:

- PSYC UN1610 Introductory Statistics for Behavioral Scientists
- PSYC UN1660 Advanced Statistical Inference
- STAT UN1001 Introduction to Statistical Reasoning

- STAT UN1101 Introduction to Statistics (formerly *STAT W1111*)
- STAT UN1201 Calculus-Based Introduction 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 fall term 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*.

Beginning Fall 2019, Research Methods courses will no longer fulfill any of the Group distribution requirements.

Seminar Requirement

In addition, 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. Enrollment in 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 and supervised individual research courses (PSYC UN3910 Honors Seminar, PSYC UN3920 Honors Research, and PSYC UN3950 (<http://bulletin.columbia.edu/search/?P=PSYC%20UN3950>) Supervised Individual Research) will not meet the seminar requirement.

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 (for the New Major requirements)

For students entering Columbia in Fall 2020 or later, one course must be taken to fulfill the integrative/applied 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 following courses are pre-approved to count toward the Special Elective requirement. If you would like to count a course that does not appear on this list, please contact your Program Advisor (<https://psychology.columbia.edu/content/advising/>) prior to enrolling.

- PSYC UN3950 SUPERVISED INDIVIDUAL RESEARCH or PSYC UN3920 Honors Research (taken for 3 or 4 points)
- PSYC UN1910 Research Ethics in Psychology
- PSYC UN1930 Behavioral Data Science
- PSYC UN1990 Global Behavioral Science
- PSYC UN3615 Children at Risk (Lecture)
- PSYC GU4612 Frontiers of Justice
- PSYC GU4930 Fundamentals of Human Brain Imaging: from theory to practice
- STAT UN2102 Applied Statistical Computing
- STAT GU4243 Applied Data Science
- PSYC BC1088 The Science of Living Well
- PSYC BC2175 Addictive Behaviors (overlaps with PSYC 2460 Drugs & Behavior)
- PSYC BC3155 Psychology and Law
- PSYC BC3465 Field Work # Research Seminar: Toddler Center
- PSYC BC3466 Field Work # Research Seminar: Toddler Center
- PSYC BC3473 Clinical Field Practicum
- PHIL V2400 Psychology and Philosophy of Human Experience
- NSBV BC3387 Topics in Neuroethics

Electives

Additional psychology courses ("electives") must be taken for a total of 30 points (or 11 courses for the new major requirements).

Once a student has met the specific requirements of the major, any other psychology or approved cognate courses they take to complete the 30-point (or, for students entering Columbia in Fall 2020 or later, the 11-course) minimum constitute 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.

Research Credits

No more than 4 points of PSYC UN3950 (<http://bulletin.columbia.edu/search/?P=PSYC%20UN3950>) Supervised Individual Research or PSYC UN3920 Honors Research may be taken in any one term, and no more than 8 points total of research and field work courses (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) may be applied toward the major. See below for further restrictions on applying Barnard courses toward the psychology major. Under the new 11-course major, research courses must be taken for 3 or 4 points in order to count toward the major; a maximum of 2 such courses may be applied towards the major. (See below for further restrictions on applying Barnard courses toward the psychology major).

Barnard Courses

For students completing the 30-point major: No more than 9 points (minus any transfer credits) from Barnard psychology courses may be applied as credit toward the major.

For students completing the 11-course major: A maximum of 5 courses counted toward the major may be from outside Columbia (i.e., Barnard and/or transfer courses).

The table of approved Barnard psychology courses (<https://psychology.columbia.edu/content/approved-barnard-courses/>) indicates which courses have been approved for specific requirements of the psychology major. Courses not on the approved list may only be applied toward a specific requirement with prior written approval from one of the directors of undergraduate studies (<https://psychology.columbia.edu/content/advising/>). Courses not on the approved list for a specific requirement may be applied as elective credit toward the 30 points for the major (or towards the 11 courses needed for the new major requirements).

Beginning in Fall 2019, Barnard Lab courses will not count towards the Research Methods requirement of the Psychology Major or Concentration.

Non-Psychology Courses

For students completing the 11-course major: Some courses offered outside of 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.

Transfer Credits

For students completing the 30-point major: No more than 9 transfer credits (or a combination of transfer and Barnard credits) will be accepted toward the psychology major.

For students completing the 11-course major: No more than 3 transfer courses can be applied toward the psychology major. Any transfer courses thus applied count toward the limit of 5 courses from outside Columbia.

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 ([https://psychology.columbia.edu/sites/default/files/content/Major%20Substitution%20Form%20\(Updated%20170611\)_0.pdf](https://psychology.columbia.edu/sites/default/files/content/Major%20Substitution%20Form%20(Updated%20170611)_0.pdf)). This form, along with additional information about transfer credits can be found on the Transfer Credit page of our website (<https://psychology.columbia.edu/content/transfer-credit/>). To be approved for the major, a course taken at another institution should be substantially similar to one offered by the department, the grade received must be a B- or better, and the course must have been taken within the

past 8 years. As noted above, if two courses overlap in content, only one will be applied towards the major. With the exception of approved Barnard courses, students should consult with one of the directors of undergraduate studies (<https://psychology.columbia.edu/content/advisors/>) before registering for psychology courses offered outside the department.

Students who have completed an introductory psychology course at another institution prior to declaring a psychology major should submit a Major Requirement Substitution Form (<https://psychology.columbia.edu/content/transfer-credit/>) to verify whether or not this course meets departmental standards for major transfer credit. If transfer credit toward the major is not approved, the student must enroll in PSYC UN1001 The Science of Psychology or PSYC BC1001 Introduction to Psychology to complete this major requirement.

AP Psychology Transfer Credit

Beginning in Fall 2019, the Psychology Department will accept 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 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 of courses or points 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 directors of undergraduate studies (<https://psychology.columbia.edu/content/advising/>).

Major in Neuroscience and Behavior

Please read Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors (p. 4) 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 (<https://psychology.columbia.edu/content/program-planning-tips/>) and use the appropriate major requirement checklist (<https://psychology.columbia.edu/content/major-concentration-requirement-checklists/>).

No course may be counted twice in fulfillment of the biology or psychology requirements described below. Most 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 general chemistry (or the high school equivalent), ten courses are required to complete the major—five 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 (<http://biology.columbia.edu/>).

Required Biology Courses

1. BIOL UN2005 Introductory Biology I: Biochemistry, Genetics & Molecular Biology

2. BIOL UN2006 Introductory Biology II: Cell Biology, Development & Physiology
 3. BIOL UN3004 Neurobiology I: Cellular and Molecular Neurobiology
 4. BIOL UN3005 Neurobiology II: Development & Systems
 5. One additional 3000- or 4000-level biology course from a list approved by the biology adviser (<https://biology.columbia.edu/programs/advisors/>) to the program.
 - BIOL UN3006 Physiology
 - BIOL UN3022 Developmental Biology
 - BIOL UN3025 Neurogenetics
 - BIOL UN3031 Genetics
 - BIOL UN3799 Molecular Biology of Cancer
 - BIOL UN3034 Biotechnology
 - BIOL UN3041 Cell Biology
 - BIOL UN3073 Cellular and Molecular Immunology
 - BIOL UN3193 Stem Cell Biology and Applications
 - BIOC UN3300 Biochemistry
 - BIOC UN3501 Biochemistry: Structure and Metabolism
 - BIOL UN3310 Virology
 - BIOL UN3404 Seminar on the Global Threat of Antimicrobial Resistance
 - BIOC UN3512 Molecular Biology
 - BIOL GU4008 The Cellular Physiology of Disease
 - BIOL GU4082 Theoretical Foundations and Applications of Biophysical Methods
 - BIOL GU4300 Drugs and Disease
 - BIOL GU4510 Genomics of Gene Regulation
 - BIOL GU4560 Evolution in the age of genomics
 - BIOL GU4035 Seminar in Epigenetics
 - BIOL GU4070 The Biology and Physics of Single Molecules
 - BIOL GU4075 Biology at Physical Extremes
 - BIOL GU4080 The Ancient and Modern RNA Worlds
 - BIOL GU4260 Proteomics Laboratory
 - BIOL GU4290 Biological Microscopy
 - BIOL GU4305 Seminar in Biotechnology
 - PSYC UN1490 RESEARCH METHODS - COGNITION/DECISION MAKING
 - PSYC UN1610 Introductory Statistics for Behavioral Scientists
 - PSYC UN1660 Advanced Statistical Inference
 - STAT UN1101 Introduction to Statistics (formerly STAT W1111)
 - STAT UN1201 Calculus-Based Introduction 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 a list* approved by the psychology adviser (https://psychology.columbia.edu/content/neuroscience-behavior-major/#/cu_accordion_item-1255) (https://psychology.columbia.edu/content/neuroscience-behavior-major/#/cu_accordion_item-1255) to the program:
- PSYC S2210Q Cognition: Basic Processes
 - PSYC UN2215 Cognition and the Brain or PSYC S2215D Cognition and the Brain
 - PSYC UN2220 Cognition: Memory and Stress
 - PSYC W2225 Attention and Perception
 - PSYC W2230 Perception and Sensory Processes
 - PSYC W2235 or PSYC S2235Q Thinking and Decision Making
 - PSYC UN2250 Evolution of Cognition
 - PSYC UN2280 Introduction to Developmental Psychology
 - PSYC UN2420 Animal Behavior
 - PSYC UN2430 Cognitive Neuroscience
 - PSYC UN2440 Language and the Brain
 - PSYC UN2450 Behavioral Neuroscience or PSYC S2450Q Behavioral Neuroscience
 - PSYC UN2460 Drugs and Behavior
 - PSYC UN2470 Fundamentals of Human Neuropsychology
 - PSYC UN2480 The Developing Brain
 - PSYC UN2620 Abnormal Behavior or PSYC S2620Q Abnormal Behavior

**Please make careful note of this list, as courses not listed here will not count towards the P4 requirement.*

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
 - Students who have previously taken PSYC UN1010 Mind, Brain and Behavior (no longer offered) may use that course to fulfill this requirement.
3. One statistics or research methods course from the following:
 - PSYC UN1450 RESEARCH METHODS - SOCIAL COGNITION # EMOTION
5. One advanced psychology seminar from a list approved by the psychology adviser (https://psychology.columbia.edu/content/neuroscience-behavior-major/#/cu_accordion_item-1257) to the program:
 - PSYC W3265 Auditory Perception (Seminar)
 - PSYC UN3270 Computational Approaches to Human Vision (Seminar)
 - PSYC UN3280 Seminar In Infant Development or PSYC S3280D Seminar in Infant Development
 - PSYC S3285D The Psychology of Disaster Preparedness
 - PSYC UN3290 Self: A Cognitive Exploration (Seminar)
 - PSYC GU4202 Theories of Change in Human Development
 - PSYC GU4222 The Cognitive Neuroscience of Aging (Seminar)
 - PSYC GU4223 Memory and Executive Function Thru the Lifespan
 - PSYC G4225 Consciousness and Attention (Seminar)

- PSYC GU4229 Attention and Perception(Seminar)
- PSYC GU4232 Production and Perception of Language
- PSYC G4235
- PSYC GU4236 Machine Intelligence
- PSYC GU4239 Cognitive neuroscience of narrative and film
- PSYC GU4242 Evolution of Language (Seminar)
- PSYC GU4244 Language and Mind
- PSYC GU4250 Evolution of Intelligence, Cognition, and Language (Seminar)
- PSYC GU4270 Cognitive Processes (Seminar)
- PSYC G4272 Advanced Seminar in Language Development
- PSYC GU4280 Core Knowledge (Seminar)
- PSYC GU4281 The Psychology of Curiosity
- PSYC GU4282 The Neurobiology and Psychology of Play
- PSYC G4285 Multidisciplinary Approaches to Human Decision Making (Seminar)
- PSYC GU4287 Decision Architecture
- PSYC GU4289 The Games People Play: The Psychology of Strategic Decision Making
- PSYC S3410Q Seminar in Emotion
- PSYC W3435 Neurobiology of Reproductive Behavior (Seminar)
- PSYC UN3445 The Brain & Memory
- PSYC UN3450 EVOL-INTELLIGENC/CONSCIOUSNESS/ PSYC G4450 The Evolution of Intelligence & Consciousness (Seminar)
- PSYC UN3481 Critical Periods in Brain Development and Behavior
- PSYC W3484 Life Span Development: Theory and Methods
- PSYC UN3496 Neuroscience and Society or PSYC S3496Q Neuroscience and Society
- PSYC W4415 Methods and Issues in Cognitive Neuroscience (Seminar)
- PSYC GU4420 Animal Cognition (Seminar)
- PSYC GU4430 Learning and the Brain (Seminar)
- PSYC GU4435 Non-Mnemonic Functions of Memory Systems
- PSYC G4440 or PSYC S4440Q Topics in Neurobiology and Behavior
- PSYC G4460 Cognitive Neuroscience and the Media (Seminar)
- PSYC GU4470 Psychology & Neuropsychology of Language (Seminar)
- PSYC GU4480 Psychobiology of Infant Development (Seminar)
- PSYC GU4482 Neural Plasticity
- PSYC G4485 Affective Neuroscience (Seminar)
- PSYC GU4486 Developmental and Affective Neuroscience (Seminar)
- PSYC G4492 Psychobiology of Stress
- PSYC G4495 Ethics, Genetics, and the Brain
- PSYC GU4498 Behavioral Epigenetics
- PSYC UN3615 Children at Risk (Lecture)(Seminar)
- PSYC UN3620 Seminar in Developmental Psychopathology
- PSYC UN3623 Topics in Clinical Psychology
- PSYC UN3624 Adolescent Mental Health: Causes, Correlates, Consequences
- PSYC UN3625 Clinical Neuropsychology (Seminar) or PSYC S3625D Clinical Neuropsychology Seminar
- PSYC UN3680 Social Cognitive Neuroscience (Seminar)/ PSYC GU4685 Social Cognitive Neuroscience (Seminar)
- PSYC GU4612 Frontiers of Justice
- PSYC GU4615 The Psychology of Culture and Diversity (Seminar)
- PSYC GU4627 Seminar in Anxiety, Obsessive-Compulsive, and Related Disorders
- PSYC G4630 Advanced Seminar in Current Personality Theory and Research (Seminar)
- PSYC GU4635 The Unconscious Mind (Seminar)
- PSYC GU4645 Culture, Motivation, and Prosocial Behavior
- PSYC G4670 Theories in Social and Personality Psychology (Seminar)
- PSYC GU4672 Moral Psychology
- PSYC GU4673 Political Psychology
- PSYC GU4682 FAQs about Life: Applications of Psychological Research to Everyday Experiences
- PSYC GU4690 Social Factors and Psychopathology (Seminar)
- PSYC GU4695 Psychology of Close Relationships (Seminar)

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.

Transfer Credit for Psychology Courses Taken Elsewhere

Students should consult a psychology adviser (<https://psychology.columbia.edu/content/advising/>) before registering for psychology courses offered outside the department. With the adviser's approval, one, and only one, course from another institution, including Barnard, may be applied toward the psychology portion of the Neuroscience and Behavior major. Students who wish to obtain credit for a course taken at Barnard or at another institution should complete the Major Requirement Substitution Form (<https://psychology.columbia.edu/content/transfer-credit/>). **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.** Beginning in Fall 2019, 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 PSYC UN1001 The Science of Psychology requirement. 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 – approved by the Psychology adviser – to fulfill the required number of courses for their program.

Advanced Placement (AP) statistics scores will not satisfy the statistics/research methods requirement. Students who have completed AP Statistics are encouraged to enroll in a 1400-level research methods course to fulfill this requirement.

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 an adviser.

Concentration in Psychology

Please read Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors (p. 4) above.

The Psychology Concentration requirements changed in 2020. Students entering an undergraduate degree program at Columbia in Fall 2020 or later must complete the new concentration requirements. Students who entered Columbia prior to Fall 2020 may choose to complete either the new concentration requirements or the old ones.

New Concentration Requirements (for students entering Fall 2020 or later)

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.

1. PSYC UN1001 The Science of Psychology
2. A Statistics or Research Methods course (PSYC UN1610 Introductory Statistics for Behavioral Scientists, STAT UN1001 Introduction to Statistical Reasoning, STAT UN1101 Introduction to Statistics, STAT UN1201 Calculus-Based Introduction to Statistics, or a course in the 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 (<https://psychology.columbia.edu/content/psychology-major/>) regarding grades, transfer credits, and overlapping courses also apply toward the Psychology Concentration

Old Concentration Requirements (for students entering prior to Fall 2020)

A concentration in psychology (<https://psychology.columbia.edu/content/psychology-concentration/>) requires a minimum of 18 points, including PSYC UN1001 The Science of Psychology 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 (<http://bulletin.columbia.edu/search/?P=PSYC%20UN3950>) 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 outside the department may be applied toward the concentration.

*Beginning Fall 2019, Barnard Lab courses will not count towards the Research Methods requirement of the Psychology Major or Concentration.

Except as noted above, other regulations outlined in the Psychology Major section (<https://psychology.columbia.edu/content/psychology-major/>) regarding grades, transfer credits, and overlapping courses also apply toward the Psychology Concentration

PSYC UN1001 The Science of Psychology. 3 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 2020: PSYC UN1001

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1001	001/10065	T Th 1:10pm - 2:25pm Online Only	Patricia Lindemann	3	205/240
PSYC 1001	002/10087	M W 10:10am - 11:25am Online Only	Tina Kao	3	122/189
PSYC 1001	003/13741	T Th 2:40pm - 3:55pm Online Only	Svetlana Rosis	3	183/189

Spring 2021: PSYC UN1001

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1001	001/10967	T Th 1:10pm - 2:25pm Room TBA	Patricia Lindemann	3	0/240
PSYC 1001	002/10968	M W 11:40am - 12:55pm Room TBA	Svetlana Rosis	3	0/189

PSYC UN1420 RESEARCH METHODS - HUMAN BEHAVIOR. 4.00 points.

Attendance at the first class is mandatory. Fee: \$70.

Prerequisites: *PSYC W1001* or *PSYC W1010*, and a statistics course (*PSYC W1610* or the equivalent), or the instructor's permission.

Prerequisites: PSYC UN1001 and a statistics course (PSYC UN1610 or the equivalent), or the instructor's permission. Corequisites: PSYC UN1421 Introduction to the techniques of research employed in the study of human behavior. Students gain experience in the conduct of research, including design of simple experiments, observation and measurement techniques, and the analysis of behavioral data

Spring 2021: PSYC UN1420

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1420	001/10969	M 4:10pm - 6:00pm Room TBA	Patricia Lindemann	4.00	0/80

PSYC UN1421 RESEARCH METHODS-HUM BEHAV LAB. 0.00 points.

Limited enrollment in each section.

Corequisites: PSYC UN1420

Corequisites: PSYC UN1420

PSYC UN1450 RESEARCH METHODS - SOCIAL COGNITION # EMOTION. 4.00 points.

Attendance at the first class is essential. Priority given to psychology majors. Fee: \$70.

Prerequisites: PSYC UN1001 or PSYC UN1010 and a statistics course (PSYC UN1610 or the equivalent), or the instructor's permission.

Corequisites: PSYC UN1451

An introduction to research methods employed in the study of human social cognition and emotion. Students gain experience in the design and conduct of research, including ethical issues, observation and measurement techniques, interpretation of data, and preparation of written and oral reports

PSYC UN1451 RESEARCH METHODS - SOCIAL COGNITION # EMOTION - LAB. 0.00 points.

Limited enrollment in each section.

Corequisites: PSYC UN1450

An introduction to research methods employed in the study of human social cognition and emotion. Students gain experience in the design and conduct of research, including ethical issues, observation and measurement techniques, interpretation of data, and preparation of written and oral reports

PSYC UN1455 RESEARCH METHODS: SOCIAL/PERSONALITY. 4.00 points.

Fee: \$70.

Prerequisites: PSYC UN1001 or PSYC UN1010 and a statistics course (PSYC UN1610 or the equivalent), or the instructor's permission.

Corequisites: PSYC UN1456

Prerequisites: PSYC UN1001 or PSYC UN1010 and a statistics course (PSYC UN1610 or the equivalent), or the instructors permission.

Corequisites: PSYC UN1456 Methodology and procedures of personality and social psychological research and exercises in data analysis and research design. Ethical issues in psychological research. Statistical concepts such as parameter estimation and testing, measurement reliability and validity, merits and limitations of correlational and experimental research designs, and empirical evaluation of theories

Spring 2021: PSYC UN1455

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1455	001/10977	M 10:10am - 12:00pm Room TBA	Niall Bolger	4.00	0/80

PSYC UN1456 RESEARCH METHODS: SOCIAL/PERSONALITY. 0.00 points.

Limited enrollment in each section.

Corequisite: PSYC UN1455

Spring 2021: PSYC UN1456

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1456	001/11240	W 10:10am - 12:00pm Room TBA	Niall Bolger	0.00	0/18
PSYC 1456	002/11241	W 2:10pm - 4:00pm Room TBA	Niall Bolger	0.00	0/18

PSYC UN1490 RESEARCH METHODS - COGNITION/DECISION MAKING. 4.00 points.

Corequisites: PSYC UN1491

Corequisites: PSYC UN1491 Prerequisites: Science of Psychology (PSYC 1001) or Mind, Brain, - Behavior (PSYC 1010) or equivalent intro psych course, plus an introductory statistics course. Introduces research methods employed in the study of the cognitive and social determinants of thinking and decision making. Students gain experience in the conduct of research, including: design of simple experiments; observation and preference elicitation techniques; the analysis of behavioral data, considerations of validity, reliability, and research ethics; and preparation of written and oral reports. Note: Fee: \$70. Attendance at the first class is essential

Fall 2020: PSYC UN1490

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1490	001/10088	M 2:10pm - 4:00pm Online Only	Katherine Fox-Glassman	4.00	68/65

PSYC UN1491 RESEARCH METHODS - COGNITION/DECISION LAB. 0.00 points.

Prerequisites: (PSYC UN1001 or PSYC UN1010) and (PSYC UN1610 or STAT UN1001 or STAT UN1101 or STAT UN1201) Or equivalent introductory psychology and statistics courses.

Corequisites: PSYC UN1490

Prerequisites: PSYC UN1001 and (PSYC UN1610 or STAT UN1001 or STAT UN1101 or STAT UN1201) Or equivalent introductory psychology and statistics courses. Corequisites: PSYC UN1490 Required lab for PSYC UN1490

Fall 2020: PSYC UN1491

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1491	001/10830	M 4:10pm - 6:00pm Online Only	Katherine Fox- Glassman	0.00	18/17
PSYC 1491	002/10831	M 4:10pm - 6:00pm Online Only	Katherine Fox- Glassman	0.00	17/17
PSYC 1491	003/10834	M 6:10pm - 8:00pm Online Only	Katherine Fox- Glassman	0.00	17/15
PSYC 1491	004/10836	T 6:10pm - 8:00pm Online Only	Katherine Fox- Glassman	0.00	16/15

PSYC UN1610 Introductory Statistics for Behavioral Scientists. 4 points.

Lecture and lab. Priority given to psychology majors. Fee \$70.

Prerequisites: PSYC UN1001 or PSYC UN1010 Recommended preparation: one course in behavioral science and knowledge of high school algebra.

Corequisites: PSYC UN1611

Introduction to statistics that concentrates on problems from the behavioral sciences.

Fall 2020: PSYC UN1610

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1610	001/10089	T Th 11:40am - 12:55pm Online Only	Katherine Fox- Glassman	4	57/60

Spring 2021: PSYC UN1610

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1610	001/10978	T Th 10:10am - 11:25am Room TBA	Christopher Baldassano	4	0/40

PSYC UN1611 Introductory Statistics for Behavioral Scientists (Lab). 0 points.

Limited enrollment in each section.

Corequisites: PSYC UN1610

Required lab section for *PSYC UN1610*.

Fall 2020: PSYC UN1611

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1611	001/10220	Th 4:10pm - 6:00pm Online Only	Katherine Fox- Glassman	0	16/16
PSYC 1611	002/10221	Th 8:10pm - 10:00pm Online Only	Katherine Fox- Glassman	0	13/16
PSYC 1611	003/10222	F 12:10pm - 2:00pm Online Only	Katherine Fox- Glassman	0	14/16
PSYC 1611	004/24734	Th 6:10pm - 8:00pm Online Only	Katherine Fox- Glassman	0	12/16

PSYC UN1910 Research Ethics in Psychology. 4 points.

Prerequisites: (PSYC UN1001) or equivalent introductory course in psychology.

This course explores the ethical theory, principles, codes and standards applicable to research in psychology and the complexities inherent in ethical research practice.

PSYC UN1930 Behavioral Data Science. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

This course covers the basic skills and knowledge needed to address psychological research questions using data science methods. Topics cover the full scope of a behavioral data science research project including data acquisition, data processing, and data analysis.

Fall 2020: PSYC UN1930

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1930	001/15288	M 2:10pm - 4:00pm Online Only	Matthew Sisco	4	7/18

PSYC UN1990 Global Behavioral Science. 4 points.

This course builds on fundamentals of psychological and behavioral science by exploring reproducibility and replication on a global level. Students will learn from a wide range of studies and their real-world implications.

PSYC UN2215 Cognition and the Brain. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Not offered during 2020-21 academic year.

Prerequisites: *PSYC UN1001* or *PSYC UN1010* (recommended) or the instructor's permission.

How mental activities – particularly human cognitive processes – are implemented in the brain, with some emphasis on methods and findings of neuroscience. Topics include long term and working memory, attention and executive processes, concepts and categorization, decision making, and language.

PSYC UN2220 Cognition: Memory and Stress. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Attendance at the first class is mandatory.

Prerequisites: PSYC UN1001 or PSYC UN1010 or the instructor's permission.

Memory, attention, and stress in human cognition.

Spring 2021: PSYC UN2220

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2220	001/10979	T Th 4:10pm - 5:25pm Room TBA	Janet Metcalfe	3	0/60

PSYC UN2235 Thinking and Decision Making. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: an introductory course in psychology. Models of judgment and decision making in both certain and uncertain or risky situations, illustrating the interplay of top-down (theory-driven) and bottom-up (data-driven) processes in creating knowledge. Focuses on how individuals do and should make decisions, with some extensions to group decision making and social dilemmas.

Spring 2021: PSYC UN2235

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2235	001/10980	T Th 11:40am - 12:55pm Room TBA	Katherine Fox-Glassman	3	0/140

PSYC UN2250 Evolution of Cognition. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 or PSYC UN1010 or the instructor's permission.

A systematic review of different forms of cognition as viewed in the context of the theory of evolution. Specific topics include the application of the theory of evolution to behavior, associative learning, biological constraints on learning, methods for studying the cognitive abilities of animals, levels of representation, ecological influences on cognition, and evidence of consciousness in animals.

PSYC UN2280 Introduction to Developmental Psychology. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Enrollment may be limited. Attendance at the first two classes is mandatory.

Prerequisites: PSYC UN1001 or PSYC UN1010 or the equivalent. Introduction to the scientific study of human development, with an emphasis on psychobiological processes underlying perceptual, cognitive, and emotional development.

Fall 2020: PSYC UN2280

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2280	001/20679	T Th 4:10pm - 5:25pm Online Only	Nim Tottenham	3	132/150

PSYC UN2420 Animal Behavior. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 or PSYC UN1010 or a college-level biology course, or the instructor's permission.

Introduction to behavioral systems, evolution of behavioral traits, and analysis of behavior. Topics include reproductive and social behavior, mating systems, competition, cooperation, communication, learning, development and the interplay of genes and environment.

Spring 2021: PSYC UN2420

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2420	001/10981	T Th 2:40pm - 3:55pm Room TBA	Sarah Woolley	3	0/60

PSYC UN2430 Cognitive Neuroscience. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 or equivalent introductory course in Psychology

This course provides an in-depth survey of data and models of a wide variety of human cognitive functions. Drawing on behavioral, neuropsychological, and neuroimaging research, the course explores the neural mechanisms underlying complex cognitive processes, such as perception, memory, and decision making. Importantly, the course examines the logic and assumptions that permit us to interpret brain activity in psychological terms.

Spring 2021: PSYC UN2430

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2430	001/10982	M W 2:40pm - 3:55pm Room TBA	Mariam Aly	3	0/150

PSYC UN2440 Language and the Brain. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 or PSYC UN1010, or the instructor's permission.

Introduction to psychological research on human language and communication and to brain mechanisms supporting language processing. Topics include comprehension and production of speech sounds, words and sentences; reading and writing; bilingualism; communication behavior.

PSYC UN2450 Behavioral Neuroscience. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 or PSYC UN1010 or the instructor's permission.

Examines the principles governing neuronal activity, the role of neurotransmitter systems in memory and motivational processes, the presumed brain dysfunctions that give rise to schizophrenia and depression, and philosophical issues regarding the relationship between brain activity and subjective experience.

Spring 2021: PSYC UN2450

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2450	001/10983	M W 1:10pm - 2:25pm Room TBA	Alfredo Spagna	3	0/110

PSYC UN2460 Drugs and Behavior. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: *PSYC W1001* or *PSYC W1010*, or the equivalent.

The effects of psychoactive drugs on the brain and behavior.

PSYC UN2470 Fundamentals of Human Neuropsychology. 3.00 points.

Fundamentals of Human Neuropsychology is an intermediate-level lecture course, which explores how the analysis of lesion patterns extended across brain networks has offered invaluable insights on the relationship between brain and behavior and deepened our understanding of the causal relationships between brain lesions and their clinical consequences.

Fall 2020: PSYC UN2470

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2470	001/20754	M W 1:10pm - 2:25pm Online Only	Alfredo Spagna	3.00	72/110

PSYC UN2480 The Developing Brain. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: *PSYC UN1001* or *PSYC UN1010*, or the instructor's permission.

Brain development across the life span, with emphasis on fetal and postnatal periods. How the environment shapes brain development and hence adult patterns of behavior.

PSYC UN2610 Introduction To Personality. 3 points.

Prerequisites: an introductory psychology course.

A survey of the important methods, findings, and theories in the field of personality research.

PSYC UN2620 Abnormal Behavior. 3 points.

Prerequisites: An introductory psychology course.

Examines definitions, theories, and treatments of abnormal behavior.

Fall 2020: PSYC UN2620

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2620	001/10095	T Th 6:10pm - 7:25pm Online Only	Emett McCaskill	3	249/200

PSYC UN2630 Social Psychology. 3 points.

Surveys important methods, findings, and theories in the study of social influences on behavior. Emphasizes different perspectives on the relation between individuals and society.

Fall 2020: PSYC UN2630

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2630	001/10096	T Th 2:40pm - 3:55pm Online Only	Tory Higgins	3	112/150

PSYC UN2640 Introduction to Social Cognition. 3 points.

Prerequisites: an introductory course in psychology or the instructor's permission.

An introduction to basic concepts in social cognition. Topics include attribution theory (how we explain our own and other's behavior), social categories and schema (social perception and stereotyping), the social self (the development and maintenance of a self-concept), attention and consciousness, person memory, affect and cognition, and social inference, among others.

PSYC UN2650 Introduction to Cultural Psychology. 3 points.

Prerequisites: none; some basic knowledge of social psychology is desirable.

A comprehensive examination of how culture and diversity shape psychological processes. The class will explore psychological and political underpinnings of culture and diversity, emphasizing social psychological approaches. Topics include culture and social cognition, group and identity formation, psychology of multiculturalism, stereotyping, prejudice, and gender. Applications to real-world phenomena discussed.

Spring 2021: PSYC UN2650

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2650	001/10984	M W 10:10am - 11:25am Room TBA	Valerie Purdie-Greenaway	3	0/150

PSYC UN2670 Social Development. 3 points.

Prerequisites: PSYC UN1001 or PSYC UN1010, or the equivalent.

This lecture course introduces students to the study of typical human social development with a particular focus on genetic, familial and peer influences on the development of social behaviors during early childhood.

PSYC UN3270 Computational Approaches to Human Vision (Seminar). 3 points.

This course will be offered in Fall 2016.

Prerequisites: some background in psychology and/or neurophysiology (e.g., PSYC UN1001, PSYC UN1010, PSYC UN2230, PSYC UN2450; BIOL UN3004 or BIOL UN3005) is desirable. See instructor if you have questions about your background. Some background in mathematics and computer science (e.g., calculus or linear algebra, a programming language) is highly recommended.

Study of human vision—both behavioral and physiological data—within a framework of computational and mathematical descriptions. Please contact Prof. Graham by e-mail (nvg1@columbia.edu) if you are interested in this course.

Spring 2021: PSYC UN3270

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3270	001/10985		Norma Graham	3	0/12

PSYC UN3280 Seminar In Infant Development. 3 points.

Prerequisites: a course in perception, cognition or developmental psychology, and the instructor's permission.

Analysis of human development during the first year of life, with an emphasis on infant perceptual and cognitive development.

PSYC UN3290 Self: A Cognitive Exploration (Seminar). 4 points.

Not offered during 2020-21 academic year.

Prerequisites: PSYC UN1001 or PSYC UN1010, or the equivalent, plus the instructor's permission.

What does it mean to have a sense of self? Is it uniquely human? Taking a cognitive perspective, we will discuss these questions as well as self-reflective and self-monitoring abilities, brain structures relevant to self-processing, and disorders of self. We will also consider the self from evolutionary, developmental, neuroscience, and psychopathological perspectives.

PSYC UN3445 The Brain & Memory. 4 points.

Prerequisites: (PSYC UN1010) or Equivalent introductory course in neuroscience or cognitive psychology and the instructor's permission

This seminar will give a comprehensive overview of episodic memory research: what neuroimaging studies, patient studies, and animal models have taught us about how the brain creates, stores, and retrieves memories.

PSYC UN3450 EVOL-INTELLIGENC/CONSCIOUSNESS. 3.00 points.

Prerequisites: PSYC UN1001 or PSYC UN1010, and the instructor's permission.

Prerequisites: PSYC UN1001, and the instructors permission. A systematic review of the evolution language covering the theory of evolution, conditioning theory, animal communication, ape language experiments, infant cognition, preverbal antecedents of language and contemporary theories of language

Fall 2020: PSYC UN3450

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3450	001/10105	T 2:10pm - 4:00pm Online Only	Herbert Terrace	3.00	10/15

PSYC UN3481 Critical Periods in Brain Development and Behavior. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

Not offered during 2020-21 academic year.

Prerequisites: (PSYC UN1010 or equivalent course in neuroscience or cognitive psychology).

The majority of our mental capacities—ranging from basic sensory functions to more advanced social, emotional and cognitive capabilities—take many years to develop and are highly influenced by environmental signals encountered during particular developmental 'critical periods'. In this seminar we will explore examples of these periods across diverse brain systems and behaviors, ranging from vision and audition to social, emotional and cognitive development, by considering each example in the context of human brain function and behavior as well as at the level of more detailed neurobiological mechanisms underlying these changes elucidated by studies using non-human animal systems.

Fall 2020: PSYC UN3481

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3481	001/10106	Th 10:10am - 12:00pm Online Only	Sarah Canetta	4	12/15

PSYC UN3496 Neuroscience and Society. 3 points.

Prerequisites: Science of Psychology (PSYC 1001) or Mind, Brain, & Behavior (PSYC 1010), or equivalent introductory psychology course. Students who have not taken one of these courses may also be admitted with instructor permission.

This course investigates the ways in which research in human neuroscience both reflects and informs societal issues. Topics include how neuroscience research is interpreted and applied in areas such as healthcare, education, law, consumer behavior, and public policy.

Fall 2020: PSYC UN3496

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3496	001/10107	W 6:10pm - 8:00pm Online Only	Jenna Reinen	3	14/12

PSYC UN3615 Children at Risk (Lecture). 4 points.

Prerequisites: PSYC UN1010, PSYC UN2280, PSYC UN2620, or PSYC UN2680, and the instructor's permission.

Considers contemporary risk factors in children's lives. The immediate and enduring biological and behavioral impact of risk factors.

PSYC UN3620 Seminar in Developmental Psychopathology. 4 points.

Prerequisites: at least two of the following courses: (UN1001, UN1010, UN2280, UN2620, UN2680, UN3280) and the instructor's permission.

Developmental psychopathology posits that it is development itself that has gone awry when there is psychopathology. As such, it seeks to understand the early and multiple factors contributing to psychopathology emerging in childhood and later in life. We will use several models (e.g., ones dominated by biological, genetic, and psychological foci) to understand the roots of mental illness.

Fall 2020: PSYC UN3620

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3620	001/10110	W 2:10pm - 4:00pm Online Only	Hannah Hoch	4	14/15

PSYC UN3621 Creativity and the Good Life. 4 points.

Prerequisites: PSYC UN1001 or equivalent introductory psychology course

Is it possible to make sense of something as elusive as creativity? Yes, it is. This seminar will review the latest science of creativity, and how creativity is relevant to everyday life, society, and the good life. A wide variety of perspectives within the field will be highlighted, including different theories of the creative process and ways of assessing creativity.

PSYC UN3623 Topics in Clinical Psychology. 4 points.

Prerequisites: (PSYC UN1001) Instructor permission required.

A seminar for advanced undergraduate students exploring different areas of clinical psychology. This course will provide you with a broad overview of the endeavors of clinical psychology, as well as discussion of its current social context, goals, and limitations.

PSYC UN3624 Adolescent Mental Health: Causes, Correlates, Consequences. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 and Prior coursework in Abnormal Psychology and Research Methods strongly preferred.

Adolescence is a peak period for the onset of mental disorders and suicidal behaviors. The seminar is designed to enhance understanding of topics including, prevalence, etiology, risk factors, mechanisms, prevention and treatment approaches, and ethical considerations related to clinical research.

Spring 2021: PSYC UN3624

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3624	001/10986	T 10:10am - 12:00pm Room TBA	Randy Auerbach	4	0/12

PSYC UN3625 Clinical Neuropsychology (Seminar). 3 points.

Prerequisites: an introductory course in neuroscience, like PSYC UN1010 or PSYC UN2450, and the instructor's permission.

Analysis of the assessment of physical and psychiatric diseases impacting the central nervous system, with emphasis on the relationship between neuropathology and cognitive and behavioral deficits.

PSYC UN3661 Happiness Studies Seminar. 3 points.

The aim of the course is to introduce students to the field of happiness studies. Drawing on research from the field of psychology, systems thinking, psychology, neuroscience, and other disciplines, the course explores key components of personal, interpersonal, and societal happiness.

PSYC UN3690 The Self in Social Context (Seminar). 4 points.

Prerequisites: PSYC UN1001 or UN1010, or the equivalent, and the instructor's permission.

This course centers on understanding the self embedded in the social context. We will integrate knowledge from various areas of psychology (developmental, cognitive, social cognition) with a main focus in social psychology. This course will provide the opportunity to gain an understanding of research in the following areas: the development of self in a social context, the relationship between the self and the broader socio-cultural context, the impact of self-involvement on social/cognitive processes, and contemporary research on individual differences.

PSYC UN3691 Interpersonal Cognition Seminar: Close Relationships, Identity, and Memory. 4 points.

Prerequisites: PSYC UN2630 or PSYC UN2640 Instructor permission. 1 course in research methods

What makes people 'click'? How does interpersonal closeness develop? How do close relationships influence our thought processes, behaviors, and identities? How do our conversations with relationship partners change our memories of events and our perceptions of reality? And finally, what are the implicit and explicit cognitive mechanisms underlying these processes?

The primary objective of this course will be to provide you with the relevant literature, theoretical background, methodological proficiency, and critical thinking and communication skills to articulate your own answers to these questions, and to propose future studies in the field.

PSYC UN3910 Honors Seminar. 1 point.

Year-long course. Students receive credit only after both terms have been completed. May be repeated for additional credit.

Prerequisites: open to students in the honors program only.

Discussion of a variety of topics in psychology, with particular emphasis on recent developments and methodological problems. Students propose and discuss special research topics.

Fall 2020: PSYC UN3910

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3910	001/10219	W 4:10pm - 6:00pm Online Only	Lila Davachi	1	28/20

Spring 2021: PSYC UN3910

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3910	001/10988	W 4:10pm - 6:00pm Room TBA	Lila Davachi	1	0/20

PSYC UN3920 Honors Research. 1-4 points.

May be repeated for additional credit.

Prerequisites: open to students in the honors program only.

Except by special permission of the director of undergraduate studies, no more than 4 points of individual research may be taken in any one term. This includes both *PSYC UN3950* and *PSYC UN3920*. No more than 12 points of *PSYC UN3920* may be applied toward the honors program in psychology. Special research topics arranged with the instructors of the department leading toward a senior honors paper.

Fall 2020: PSYC UN3920

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3920	001/10282		Lila Davachi	1-4	27/20

Spring 2021: PSYC UN3920

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3920	001/10989		Lila Davachi	1-4	0/20

PSYC UN3950 SUPERVISED INDIVIDUAL RESEARCH. 0 points.

1-4 points. May be repeated for credit. Prerequisites: the instructor's permission.,Except by special permission of the director of undergraduate studies, no more than 4 points of individual research may be taken in any one term. This includes both PSYC UN3950 and PSYC UN3920. No more than 8 points of PSYC UN3950 may be applied toward the psychology major, and no more than 4 points toward the concentration. Readings, special laboratory projects, reports, and special seminars on contemporary issues in psychological research and theory

Fall 2020: PSYC UN3950

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3950	001/10267		Mariam Aly	0	0/5
PSYC 3950	002/10270		Christopher Baldassano	0	1/5
PSYC 3950	003/10272		Niall Bolger	0	0/5
PSYC 3950	004/10273		Geraldine Downey	0	0/5
PSYC 3950	005/10274		Katherine Fox-Glassman	0	2/5
PSYC 3950	006/10275		Norma Graham	0	1/5
PSYC 3950	007/10276		Carl Hart	0	0/5
PSYC 3950	008/10277		Larisa Heiphetz	0	0/5
PSYC 3950	009/10278		Tory Higgins	0	1/5
PSYC 3950	010/10279		Donald Hood	0	0/5
PSYC 3950	011/10285		Sheena Iyengar	0	0/5
PSYC 3950	012/10289		Patricia Lindemann	0	0/5
PSYC 3950	013/10307		Caroline Marvin	0	2/5
PSYC 3950	014/10308		Janet Metcalfe	0	0/5
PSYC 3950	015/10309		Michael Morris	0	2/5
PSYC 3950	017/10311		Shigehiro Oishi	0	0/5
PSYC 3950	018/10312		Valerie Purdie-Greenaway	0	0/5
PSYC 3950	019/10313		Daphna Shohamy	0	1/5
PSYC 3950	020/10314		Rae Silver	0	1/5
PSYC 3950	021/10316		Alfredo Spagna	0	1/5
PSYC 3950	022/10317		Ursula Staudinger	0	0/5
PSYC 3950	023/10318		Yaakov Stern	0	0/5
PSYC 3950	024/10319		Herbert Terrace	0	0/5
PSYC 3950	025/10320		Nim Tottenham	0	1/5
PSYC 3950	026/10321		Elke Weber	0	0/5
PSYC 3950	027/10322		Sarah Woolley	0	0/5
PSYC 3950	028/10323		Lila Davachi	0	1/5
PSYC 3950	029/10324		Kevin Ochsner	0	0/5
PSYC 3950	030/21409		Dima Amso	0	0/5
PSYC 3950	031/22197		Nikolaus Kriegeskorte	0	1/5

PSYC GU4202 Theories of Change in Human Development. 4.00 points.

What are the agents of developmental change in human childhood? How has the scientific community graduated from nature versus nurture, to nature and nurture? This course offers students an in-depth analysis of the fundamental theories in the study of cognitive and social development

Fall 2020: PSYC GU4202

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4202	001/20777	T 10:10am - 12:00pm Online Only	Dima Amso	4.00	8/15

PSYC GU4222 The Cognitive Neuroscience of Aging (Seminar). 4 points.

Prerequisites: courses in introductory psychology and cognitive psychology; and the instructor's permission. Comprehensive overview of various conceptual and methodologic approaches to studying the cognitive neuroscience of aging. The course will emphasize the importance of combining information from cognitive experimental designs, epidemiologic studies, neuroimaging, and clinical neuropsychological approaches to understand individual differences in both healthy and pathological aging.

PSYC GU4223 Memory and Executive Function Thru the Lifespan. 4 points.

Prerequisites: the instructor's permission, plus PSYC UN1001 or PSYC UN1010, or the equivalent. Optimal preparation will include some background in experimental design and statistics. Memory and executive processing are critical cognitive functions required for successfully navigating everyday life. In lifespan studies, both exhibit relatively long developmental trajectories followed by stasis and then relative decline in old age. Yet, neither memory nor executive function is a unitary construct. Rather, each is comprised of separable components that may show different developmental trajectories and declines or maintenance at older ages. Moreover, memory is malleable and is a reconstruction of past experience, not an exact reproduction. We will discuss a range of topics related to the development, maintenance and potential decline in memory and executive function from infancy through old age.

Spring 2021: PSYC GU4223

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4223	001/11206	W 12:10pm - 2:00pm Room TBA	David Friedman	4	0/12

PSYC GU4225 Consciousness and Attention (Seminar). 4 points.

Prerequisites: the instructor's permission; some basic knowledge of cognitive science and neuroanatomy is desirable, but not necessary. Discussion of current issues in the scientific studies of consciousness, including the search for the neural correlates of visual awareness, volition, and the various kinds of impairments of consciousness and attention as described in clinical cases. Specific topics may vary from year to year. May be repeated for credit.

PSYC GU4229 Attention and Perception. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: (PSYC UN1010) or Equivalent introductory course in neuroscience or cognitive psychology

This seminar aims to provide an in-depth overview of neuroscientific knowledge regarding two critical cognitive functions: attention and perception. For each topic, results from behavioral studies are combined with those from recent neurocognitive approaches – primarily neuropsychological and functional brain imaging studies – that reveal the underlying neural networks and brain mechanisms.

Fall 2020: PSYC GU4229

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4229	001/10217	T 12:10pm - 2:00pm Online Only	Alfredo Spagna	4	6/15

PSYC GU4232 Production and Perception of Language. 4 points.

Prerequisites: two courses in Psychology and the instructor's permission.

Topics include phonetic expression, motoric and perceptual organization, speech codes and memory codes, spoken word recognition, phrase formation, and the effects of context in perception and production.

PSYC G4230 Sensation and Perception (Seminar). 3 points.

Not offered during 2020-21 academic year.

Prerequisites: the instructor's permission; some background in perception is required.

Topics on the perception of space. Discussions, reviews, and recent literature.

PSYC GU4235 Special Topics in Vision (Seminar). 3 points.

This course will be offered in Fall 2016. May be repeated for additional credit.

Prerequisites: the instructor's permission. Please contact Prof. Graham by e-mail (nvg1@columbia.edu) if you are interested in this course.

TBD

Spring 2021: PSYC GU4235

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4235	001/10990		Norma Graham	3	0/12

PSYC GU4236 Machine Intelligence. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

This course will survey historical and modern developments in machine intelligence from fields such as psychology, neuroscience, and computer science, and from intellectual movements such as cybernetics, artificial intelligence, neural networks, connectionism, machine learning, and deep learning. The emphasis is on the conceptual understanding of topics. The course does not include, nor require background in, computer programming and statistics. A crucial aspect of the seminar is for students to become informed consumers of applications of artificial intelligence.

Fall 2020: PSYC GU4236

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4236	001/13455	W 6:10pm - 8:00pm Online Only	Trenton Jerde	4	14/15

PSYC GU4239 Cognitive neuroscience of narrative and film. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: (PSYC UN1010 or Equivalent introductory course in neuroscience or cognitive psychology

This seminar will provide a broad survey of how narrative stories, films, and performances have been used as tools to study cognition in psychology and neuroscience.

Fall 2020: PSYC GU4239

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4239	001/10100	M 10:10am - 12:00pm Online Only	Christopher Baldassano	3	13/15
PSYC 4239	002/10101	M 2:10pm - 4:00pm Online Only	Christopher Baldassano	3	16/15

PSYC GU4242 Evolution of Language (Seminar). 3 points.

Not offered during 2020-21 academic year.

Prerequisites: PSYC UN1001 or

This seminar will consider the evolution of language at the levels of the word and grammar, in each instance, phylogenetically and ontogenetically. Since humans are the only species that use language, attention will be paid to how language differs from animal communication.

Spring 2021: PSYC GU4242

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4242	001/10991	T 2:10pm - 4:00pm Room TBA	Herbert Terrace	3	0/12

PSYC GU4244 Language and Mind. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 and Preferably, an additional course in psychology, focusing on cognition, development, or research methods. Instructor permission required.

This seminar explores the relationship between language and thought by investigating how language is mentally represented and processed; how various aspects of language interact with each other; and how language interacts with other aspects of cognition including perception, concepts, world knowledge, and memory. Students will examine how empirical data at the linguistic, psychological, and neuroscientific levels can bear on some of the biggest questions in the philosophy of mind and language and in psychology.

Fall 2020: PSYC GU4244

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4244	001/10103	W 2:10pm - 4:00pm Online Only	Nora Isacoff	4	12/15

PSYC GU4250 Evolution of Intelligence, Cognition, and Language (Seminar). 3 points.

Prerequisites: PSYC UN1001 or PSYC UN1010 or the equivalent, based on instructor assessment, plus one of the instructors' permission.

How did language evolve and why are human beings the only species to use language? How did the evolution of social intelligence, in particular, cooperation, set the stage for the origin of language and consciousness? We will explore how psychologists, philosophers, neuroscientists, anthropologists, biologists and computational scientists, among others, have collaborated during recent years to produce important insights in the evolution of intelligence, consciousness and language.

PSYC GU4265 Auditory Perception. 4 points.

Prerequisites: PSYC UN1010 PSYC UN1010 or equivalent; background in statistics/research methods recommended

How does the human brain make sense of the acoustic world? What aspects of auditory perception do humans share with other animals? How does the brain perform the computations necessary for skills such as sound localization? How do we focus our auditory attention on one voice in a crowd? What acoustic cues are important for speech perception? How is music perceived? These are the types of questions we will address by studying the basics of auditory perception from textbook readings and reviews, and reading classic and current literature to understand scientific progress in the field today.

PSYC GU4270 Cognitive Processes (Seminar). 3 points.

Prerequisites: For undergraduates: one course in cognitive psychology or cognitive neuroscience, or the equivalent, and the instructor's permission. Metacognition and control processes in human cognition. Basic issues include the cognitive mechanisms that enable people to monitor what they know and predict what they will know, the errors and biases involved in self-monitoring, and the implications of metacognitive ability for people's self-determined learning, behavior, and their understanding of self.

Spring 2021: PSYC GU4270

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4270	001/10992	W 2:10pm - 4:00pm Room TBA	Lisa Son	3	0/12

PSYC GU4280 Core Knowledge (Seminar). 4 points.

Prerequisites: For undergraduates: courses in introductory psychology, cognitive or developmental psychology, and the instructor's permission. Core Knowledge explores the origins and development of knowledge in infants and children, with an additional emphasis on evolutionary cognition. In this course, we will examine evidence from cognitive psychology, developmental psychology, comparative psychology, neuroscience, and linguistics to look at the child's conception of objects, number, space, language, agency, morality and the social world. We will look at which aspects of knowledge are uniquely human, which are shared with other animals, and how this knowledge changes as children develop.

Fall 2020: PSYC GU4280

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4280	001/13747	W 12:10pm - 2:00pm Online Only	Koleen McCrink	4	15/15

PSYC GU4281 The Psychology of Curiosity. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 or equivalent introductory psychology course

What is curiosity and how do we study it? How does curiosity facilitate learning? This course will explore the various conceptual and methodological approaches to studying curiosity and curiosity-driven learning, including animal and human studies of brain and behavior.

PSYC GU4282 The Neurobiology and Psychology of Play. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

Play is a highly rewarding activity that is considered critical to cognitive, social, and emotional development. How do we define play and how do we study it? How does play help humans and other animals learn about their world and prepare them for adulthood? This course will examine the latest developments in the field of play from various methodological approaches to understand the relationship between play, learning, and normative development.

Fall 2020: PSYC GU4282

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4282	001/14386	Th 12:10pm - 2:00pm Online Only	Melanie Pincus	4	13/15

PSYC GU4287 Decision Architecture. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: (PSYC UN2235) or an equivalent course on judgment and decision making ,AND the instructor's permission
This course reviews current research in the domain of decision architecture: the application of research in cognitive and social psychology to real-world situations with the aim of influencing behavior. This seminar will discuss recent and classic studies, both of decision theory and of applied decision research, to explore the effectiveness—as well as the limitations—of a selection of these behavioral “nudges.”

Spring 2021: PSYC GU4287

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4287	001/10994	W 10:10am - 12:00pm Room TBA	Katherine Fox- Glassman	4	0/12

PSYC GU4289 The Games People Play: The Psychology of Strategic Decision Making. 3 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: (PSYC UN2235) or equivalent course on judgment and decision-making

A seminar course exploring strategic decision making (also known as behavioral game theory). This course examines the psychology underlying situations in which outcomes are determined by choices made by multiple decision makers. The prime objective will be to examine the use of experimental games to test psychological theories.

PSYC GU4420 Animal Cognition (Seminar). 3 points.

Prerequisites: For undergraduates: the instructor's permission.

Seminar concerning a nonverbal animal's use of internal representations of past experience as a basis for action. Topics include how representations are formed, what aspects of experience are encoded, how information is stored, and how it is used later to guide behavior.

PSYC GU4430 Learning and the Brain (Seminar). 4 points.

Prerequisites: courses in introductory psychology and/or neuroscience, and the instructor's permission.

What are the neural mechanisms that support learning, memory, and choices? We will review current theories in the cognitive neuroscience of human learning, discuss how learning and decision making interact, and consider the strengths and weaknesses of two influential methods in the study of human brain and behavior—functional imaging and patient studies.

PSYC GU4435 Non-Mnemonic Functions of Memory Systems. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: (PSYC UN1010) or equivalent introductory course in neuroscience or cognitive psychology

The past decade has produced an extraordinary amount of evidence that challenges the classic view of a "medial temporal lobe memory system", namely, the idea that the medial temporal lobe plays a necessary role in long-term memory but not other cognitive functions. This course will introduce these challenges to the traditional perspective by exploring functions of the so-called memory system in domains outside of long-term memory.

PSYC GU4440 TOPICS-NEUROBIOLOGY & BEH. 3 points.

Course overview: Research on autism spectrum disorder, or ASD, is highly multi-disciplinary, because it is a behaviorally defined disorder known to depend strongly on genetics. We will explore the nature of ASD by examining studies in genetics, epidemiology, neurobiology and behavior. We will examine the results from neurobiological experiments on animal models of ASD at the behavioral, systems, cellular, molecular and genetic levels. Questions to be considered will include: Is ASD really a single disorder? Which theories of ASD causation are the most compelling? Has there really been a rise in ASD prevalence? What makes a good animal model of ASD? Can neurobiological experiments on animals lead to treatments for ASD? Can any oddities of animal behaviors be considered directly analogous to those comprising a human behavioral disorder? Will the future bring "personalized medicine" with dedicated animal or human stem cell models for every person with ASD? What types of environmental insult contribute to ASD? What are the links between the immune and nervous systems in ASD? How do current behavioral findings from people with ASD direct neurobiological research?

Spring 2021: PSYC GU4440

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4440	001/11210	M 2:10pm - 4:00pm Room TBA	Yunglin Gazes	3	0/12

PSYC GU4470 Psychology & Neuropsychology of Language (Seminar). 4 points.

Prerequisites: the instructor's permission. A course in the psychology of language or linguistics is highly recommended.

This seminar surveys current theories of language production. We will examine psycholinguistic and neuroimaging studies of word and sentence production conducted with monolingual and bilingual speakers, and individuals with acquired language impairments.

Spring 2021: PSYC GU4470

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4470	001/10995	T 4:10pm - 6:00pm Room TBA	Michele Miozzo	4	0/12

PSYC GU4480 Psychobiology of Infant Development (Seminar). 4 points.

Prerequisites: (PSYC UN1001 or PSYC UN1010) and a course in developmental psychology, and the instructor's permission.

The focus of the seminar is on human development during the fetal period and early infancy. We will examine the effects of environmental factors on perinatal perceptual, cognitive, sensory-motor, and neurobehavioral capacities, with emphasis on critical conditions involved in both normal and abnormal brain development. Other topics include acute and long term effects of toxic exposures (stress, smoking, and alcohol) during pregnancy, and interaction of genes and the environment in shaping the developing brain of "high-risk" infants, including premature infants and those at risk for neurodevelopmental disorders such as Sudden Infant Death Syndrome.

Spring 2021: PSYC GU4480

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4480	001/11207	T 4:10pm - 6:00pm Room TBA	William Fifer	4	0/12

PSYC GU4482 Neural Plasticity. 4 points.

This seminar provides an overview of the mechanisms and behaviors associated with neural plasticity. Students will obtain a basic working knowledge of the different types of neural plasticity, and how these affect cognition and behaviors.

Spring 2021: PSYC GU4482

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4482	001/10996	W 10:10am - 12:00pm Room TBA	Tina Kao	4	0/12

PSYC GU4486 Developmental and Affective Neuroscience (Seminar). 4 points.

Prerequisites: courses in developmental psychology, and either research methods or affective neuroscience, and the instructor's permission.

Introduction to leading theoretical perspectives employed by developmental psychologists in the study of affective neuroscience. Exploration of the developmental brain and behavior relationships in humans and animal models of typical and atypical emotional behavior, with a critical reading of recent research findings in the field.

PSYC GU4490 Inheritance (Seminar). 4 points.

Prerequisites: basic knowledge of biology and neuroscience recommended; the instructor's permission required.

Explores the concept of inheritance and the mechanisms through which inheritance is mediated. Will focus on the generational transmission of physiology and behavior, but will also consider the inheritance of culture and language.

PSYC GU4498 Behavioral Epigenetics. 4 points.

Prerequisites: basic background in neurobiology (for instance PSYC UN1010, UN2450, UN2460, UN2480, and GU4499) and the instructor's permission.

This course will provide an overview of the field of epigenetics, with an emphasis on epigenetic phenomena related to neurodevelopment, behavior and mental disorders. We will explore how epigenetic mechanisms can be mediators of environmental exposures and, as such, contribute to psychopathology throughout the life course. We will also discuss the implications of behavioral epigenetic research for the development of substantially novel pharmacotherapeutic approaches and preventive measures in psychiatry.

Fall 2020: PSYC GU4498

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4498	001/10109	F 2:10pm - 4:00pm Online Only	Jennifer Blaze	4	14/15

PSYC GU4615 The Psychology of Culture and Diversity (Seminar). 4 points.

Prerequisites: the instructor's permission; some basic knowledge of social psychology is desirable.

A comprehensive examination of how culture and diversity shape psychological processes. The class will explore psychological and political underpinnings of culture and diversity, emphasizing social psychological approaches. Topics include culture and self, culture and social cognition, group and identity formation, science of diversity, stereotyping, prejudice, and gender. Applications to real-world phenomena discussed.

Fall 2020: PSYC GU4615

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4615	001/10112	W 10:10am - 12:00pm Online Only	Valerie Purdie-Greenaway	4	13/15
PSYC 4615	002/10113	W 2:10pm - 4:00pm Online Only	Valerie Purdie-Greenaway	4	11/15

PSYC GU4627 Seminar in Anxiety, Obsessive-Compulsive, and Related Disorders. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 or Equivalent introductory course AND PSYC UN2620 Abnormal Psychology or equivalent course in abnormal psychology strongly preferred.

This seminar course will focus on the etiology and phenomenology of anxiety disorders, obsessive-compulsive disorder (OCD), and OCD-related disorders, as well as their evidence-based treatments

PSYC GU4630 Advanced Seminar in Current Personality Theory and Research (Seminar). 3 points.

Open to psychology graduate students and advanced undergraduate psychology majors.

Prerequisites: the instructor's permission.

Critical review and analysis of basic and enduring issues in personality theory, assessment, and research.

PSYC GU4635 The Unconscious Mind (Seminar). 4 points.

Prerequisites: the instructor's permission; some basic knowledge of social psychology is desirable.

Discussion of the unconscious mind from the perspective of social cognition, with an emphasis on both theoretical and empirical background, as well as current issues in measuring automatic processing. Topics include: implicit memory systems; unconscious attitudes, goals and behavior, emotions, and decision making; the activation and deactivation of knowledge systems; and priming.

PSYC GU4645 Culture, Motivation, and Prosocial Behavior. 4 points.

Prerequisites: Some knowledge of Research Methods, Statistics, and Social Psychology, plus Instructor's Permission.

Reviews and integrates current research on three important topics of social psychology: culture, motivation, and prosocial behavior. Discussions and readings will cover theoretical principles, methodological approaches, and the intersection of these three topics. Students will write a personal research proposal based on the theories presented during the seminar.

Fall 2020: PSYC GU4645

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4645	001/10829	M 10:10am - 12:00pm Online Only	Svetlana Komissarouk	4	14/15

PSYC GU4670 Theories in Social and Personality Psychology (Seminar). 3 points.

Prerequisites: the instructor's permission.

Comparison of major theoretical perspectives on social behavior. The nature of theory construction and theory testing in psychology generally. Exercises comparing the predictions of different theories for the same study are designed to acquire an appreciation of how to operationalize theories and an understanding of the various features of a good theory.

PSYC GU4672 Moral Psychology. 4 points.

Prerequisites: Two courses in psychology, including at least one course with a focus on social and/or developmental psychology, and permission of the instructor.

Review of theories and current research on moral cognition and behavior. Topics include definitions of morality, the development of moral cognition, the role that other aspects of human experience (e.g., emotion, intentions) play in moral judgments, and the relationship between moral psychology and other areas of study (e.g., religious cognition, prejudice and stereotyping, the criminal justice system).

Fall 2020: PSYC GU4672

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4672	001/10115	T 10:10am - 12:00pm Online Only	Larisa Heiphetz	4	12/12

PSYC GU4673 Political Psychology. 4 points.

This seminar will explore what psychology (mostly social and cognitive) can tell us about politics. The class aims to provide a broad introduction to ideas and methods in the field of political psychology, as well as a deep understanding of a few specific topics.

PSYC GU4682 FAQs about Life: Applications of Psychological Research to Everyday Experiences. 4 points.

Prerequisites: Two courses in psychology, with at least one focusing on statistics and/or research methods in psychology, and permission of the instructor.

Review of basic psychological research that is relevant to questions people frequently encounter during the course of everyday life. Potential topics for this seminar include research on decision-making, emotion, and/or interpersonal relationships.

Fall 2020: PSYC GU4682

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4682	001/10116	T 2:10pm - 4:00pm Online Only	Larisa Heiphetz	4	11/12

PSYC GU4685 Social Cognitive Neuroscience (Seminar). 3 points.

Prerequisites: for graduate students, course equivalents of at least two of the following courses: PSYC UN1001, PSYC UN1010, PSYC UN2630, PSYC UN3410, PSYC UN3480, and PSYC UN3485; and/or the instructor's permission.

An introduction to the emerging interdisciplinary field of social cognitive neuroscience, which examines topics traditionally of interest to social psychologists (including control and automaticity, emotion regulation, person perception, social cooperation) using methods traditionally employed by cognitive neuroscientists (functional neuroimaging, neuropsychological assessment).

PSYC GU4686 Barriers and Levers for Behavior Change. 4 points.

Prerequisites: (PSYC UN1001 or PSYC UN1010) and prior coursework in research methods/statistics. A prior course related to social, applied, and cultural psychology or decision making will also be helpful.

Seminar course exploring individual, social, and cultural barriers and levers for behavior change, with a focus on social issues, such as motivating pro-environmental action, encouraging positive health behavior change, and promoting charitable giving.

PSYC GU4690 Social Factors and Psychopathology (Seminar). 3 points.

Prerequisites: the instructor's permission.

Reviews and integrates current research on the role of social factors in psychopathology. The immediate and long-term effects of chronic and traumatic stressors originating outside the family (e.g., natural disasters, chronic poverty) and inside the family (e.g., family violence, divorce, parental psychopathology) on psychopathology.

PSYC GU4695 Psychology of Close Relationships (Seminar). 3 points.

Prerequisites: Research Methods, statistics, social psychology, and the instructor's permission.

Introduction to leading theoretical perspectives employed by social psychologists in the study of close romantic relationships. Exploration of relationship-relevant constructs (e.g., love, commitment, intimacy, breakups) through the lenses offered by these different theories, and with a critical reading of recent research findings in this field.

PSYC GU4930 Fundamentals of Human Brain Imaging: from theory to practice. 4 points.

CC/GS: Partial Fulfillment of Science Requirement

Fundamentals of human brain imaging is a new advanced course open to undergraduates students from the Psychology, Neuroscience, Engineering, and Statistics Departments, that traces the key steps of the recent "neuroimaging revolution", and introduces the various methodologies and associated analytic approaches that are now available in the field of cognitive neuroscience. Specifically, the course develops around three main questions, currently under-represented in our undergraduate curriculum: 1) What is the advantage to study human cognition using correlational methodologies (e.g., EEG, MEG, fMRI)? 2) Which is the particular contribution of each method in the understanding of brain/behavior relationship? 3) Which are the most common ways to approach the analyze the neuroimaging data? By promoting an inclusive environment and implementing active learning strategies, this course stimulates critical thinking and fosters collaboration among students from different departments.