

# PSYCHOLOGY

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Psychology is the scientific study of the mind, the brain, and human behavior. The Psychology department offers course work and research opportunities in the fields of clinical, cognitive, developmental, neuroscientific, and social psychology. By studying psychology, students better understand human behavior, including who we are, how we do the things we do, and how we enhance our lives and society. The Psychology major provides a foundation for careers in education and research; law; medicine and public health; politics and public policy; and in business fields such as marketing, finance, and management.

## COURSE NUMBERING

Courses in the department are organized so that they are best taken in several parallel sequences. Courses numbered from 120 to 190 and ending in a zero are core survey courses that introduce students to major areas of psychology and provide additional background for more advanced courses. These courses represent major content areas of psychology; students should sample broadly from them before specializing. Courses numbered from 200 to 209 focus on statistics. Courses numbered from 210 to 299 teach general methodology or data collection in various areas of psychology. Courses numbered from 300 to 399 are more advanced courses in a particular specialization. Senior seminars, whose enrollment is limited to twenty students, are numbered from 400 to 489. These seminars are best taken once a student has appropriate background. Courses numbered from 490 to 499 are special tutorial courses that require permission of the adviser and the director of undergraduate studies.

## PREREQUISITE

PSYC 110, a general survey course, is prerequisite to several 100-level and all 200-level and above courses. This prerequisite may alternatively be satisfied by a score of 5 on the Psychology Advanced Placement test.

## REQUIREMENTS OF THE MAJOR

**The major for the Class of 2018** With DUS approval, the following changes to the requirements of the major may be fulfilled by students who declared their major under previous requirements.

**The standard major for the Class of 2019 and subsequent classes** The major in Psychology for both the B.A. degree program and the B.S. degree program requires twelve term courses beyond PSYC 110, including the senior requirement.

1. Because psychology is so diverse a subject, every student is required to take four courses from the list below. Two of these courses must be from the social science point of view in psychology and two must be from the natural science point of view. At least one from each group must be a course designated as "Core" in the course listings. Students are expected to take their two core courses as early as possible in the major, normally within two terms after declaring their major.

*Social science:* PSYC 125, 126, 127, 128, 140, 141, 150, 151, 180, 181, 182, 232L, 250, 280L, 313, 315, 330, 332, 334, 342, 355

*Natural science:* PSYC 120, 130, 135, 139, 139, 147, 149, 160, 161, 162, 171, 179, 316, 230L, 233, 260, 270, 303, 317, 318, 320, 321, 322, 324, 327, 331, 335, 337, 350, 352, 371, 372, 376

2. Because statistical techniques and the mode of reasoning they employ are fundamental in psychology, a course in statistics (PSYC 200) is required, preferably prior to the senior year. A student may substitute S&DS 103 for PSYC 200 or may substitute an examination arranged with the instructor of PSYC 200 for the course requirement. Students may take the examination only one time, and an additional course in psychology should be taken if the examination substitutes for PSYC 200.
3. To assure some direct experience in collecting and analyzing data, students must elect at least one course, preferably prior to the senior year, in which research is planned and carried out. Courses numbered between 210 and 299 fulfill this research methods requirement.
4. Students may, with permission of the DUS, count up to three term courses in other related departments toward the major. Appropriate courses are rare and students should consult with the DUS in Psychology about selecting outside courses.

Students interested in research are encouraged to take an independent study course (PSYC 493) as early as the sophomore year. Students may also take PSYC 495 for one-half course credit of independent research per term with prior permission of the faculty adviser and the DUS. To obtain permission, download the tutorial form from the department website, and submit it by the seventh calendar day after the classes begin. These independent study courses are graded P/F. No more than a total of three credits from PSYC 490-499 combined may count toward the major.

**Neuroscience track** Students with a major interest in neuroscience may wish to elect the neuroscience track. Such students are considered Psychology majors for whom the requirements have been modified to accommodate their interests, and to reflect the multidisciplinary nature of modern neuroscience and psychology. Given the broad nature of the field of neuroscience, students may wish to concentrate their studies in one area of the field (e.g., behavioral, cellular and molecular, cognitive, affective, social, clinical, or developmental). Interested students are encouraged to meet with the track adviser, Avram Holmes, 402 SSS, 436-9240,

avram.holmes@yale.edu. Majors in the neuroscience track meet with the track adviser at the beginning of each term in their junior and senior years.

Requirements for the neuroscience track are the same as for the standard major, with the following additional requirements:

1. Two terms of introductory biology are required for the major, either MCDB 120 or BIOL 101 and 102, and either E&EB 122 or BIOL 103 and 104. Students who have scored 5 on the Advanced Placement test in Biology may place out of these courses.
2. Students must take PSYC 160 or 170 and a data-collection course chosen from PSYC 230L, 260, or 270. MCDB 320 may substitute for the PSYC 160 or 170 requirement, or MCDB 320 and 321L may substitute for the PSYC 230L, 260, or 270 requirement, but not both. If MCDB 320 is substituted for a Psychology course, it cannot be counted as one of the two advanced science courses outside the department (see item 4 below).
3. As required for the standard major, students in the neuroscience track must take two courses from the social science list above, at least one of which must be designated as "Core" in the course listings. Students in the neuroscience track must also take a course from the natural science list in addition to the courses specified in item 2 above.
4. At least two advanced science courses must be chosen from Molecular, Cellular, and Developmental Biology and Ecology and Evolutionary Biology courses numbered 200 and above that deal with human and/or animal biology; recommended courses include MCDB 200, 202, 205, 210, MCDB 250, 250 300, 315, 320, E&EB 220, 225, and 240. Certain courses outside of these departments may also meet the advanced science requirement, including BENG 350, 421, CPSC 475, MB&B 300, 301, 420, 435, 443, 452, MATH 222, 225, 230, 231, and 241. Other courses may qualify for this requirement with permission of the neuroscience track adviser. Laboratory courses do not count toward the advanced science requirement. Students should note that many advanced science courses have prerequisites that must be taken first.

**Credit/D/Fail** No more than two term courses taken Credit/D/Fail may be applied toward the major; no 200-level course taken Credit/D/Fail may be applied toward the major.

#### SENIOR REQUIREMENT

**Standard major** Majors are required to earn two course credits from courses numbered PSYC 400–499. At least one of these courses (excluding PSYC 490–495, which can only be taken P/F) must be taken during the senior year, for which a student must write a substantial final paper (a minimum of 5,000 words) and receive a letter grade.

The B.A. degree is typically awarded to students who conduct a nonempirical literature review during senior year. There are no restrictions in the research format for the B.A.

The B.S. degree is awarded to students who conduct empirical research through PSYC 499 during senior year. An empirical research project normally includes designing an experiment and collecting and analyzing the data.

**Neuroscience track** The senior requirement for the neuroscience track is the same as for the standard major, except that the two required course credits from PSYC 400–499 must have neuroscience content. Students pursuing the B.S. degree in the track must carry out a neuroscientific empirical project in PSYC 499 and must be supervised by a faculty member within the neuroscience area of the Psychology department. Students who wish to work with an affiliated faculty member studying neuroscience outside the department must obtain permission from the neuroscience track adviser.

**Distinction in the Major** To be considered for Distinction in the Major, students must submit a senior essay to the Psychology department at least one week before the last day of classes in the term when the course used for the senior essay is taken. Senior essays that are submitted after the deadline will be subject to grade penalties. Senior essays considered for Distinction in the Major are graded by a second reader and the essay adviser.

#### ADVISING

Schedules for all majors must be discussed with, and approved by, the DUS or the adviser for the neuroscience track in Psychology. Only then may a schedule be submitted to the residential college dean's office. For questions concerning credits for courses taken at other institutions or at Yale but outside the Department of Psychology, students should consult with the DUS. For questions concerning the neuroscience track, students should consult with the adviser for the neuroscience track in Psychology.

**Computer Science and Psychology major** The interdepartmental major in Computer Science and Psychology may be considered by students with interests lying squarely between the two disciplines. See under Computer Science and Psychology for more information.

#### REQUIREMENTS OF THE MAJOR

##### STANDARD MAJOR

**Prerequisite** PSYC 110

**Number of courses** 12 courses beyond prereq (incl senior req)

**Specific course required** PSYC 200

**Distribution of courses** B.A. or B.S. – 2 social science courses and 2 natural science courses, as specified; 1 course numbered PSYC 210–299

**Substitution permitted** For PSYC 200, S&DS 103 or exam arranged with instructor; up to 3 relevant courses in other depts, with DUS permission

**Senior requirement** *B.A.* – 1 course credit from PSYC 400-489 or 499 taken during senior year; 1 additional course credit from PSYC 400-499; *B.S.* – PSYC 499 taken during senior year; 1 additional course credit from PSYC 400-499

#### NEUROSCIENCE TRACK

**Prerequisite** PSYC 110

**Number of courses** 12 courses beyond prereq (incl senior req); same as for the standard major with the additional requirements listed below

**Specific courses required** MCDB 120 or BIOL 101 and 102; E&EB 122 or BIOL 103 and 104; PSYC 160 or 170; PSYC 200; PSYC 230L, 260, or 270

**Distribution of courses** *B.A.* or *B.S.* – 2 social science courses and 1 natural science course, as specified; at least 2 advanced science courses, as specified

**Substitution permitted** MCDB 320 for PSYC 160 or 170, or MCDB 320 and 321L for PSYC 230L, 260, or 270; for PSYC 200, S&DS 103 or exam arranged with instructor

**Senior requirement** *B.A.* – 1 course credit from PSYC 400-489 or 499 with neuroscience content taken during senior year; 1 additional course credit from PSYC 400-499 with neuroscience content; *B.S.* – PSYC 499 taken during senior year, with neuroscience content in a research project; 1 additional course credit from PSYC 400-499 with neuroscience content

#### FACULTY OF THE DEPARTMENT OF PSYCHOLOGY

**Professors** Woo-kyoung Ahn, John Bargh, Paul Bloom, Thomas Brown, Tyrone Cannon, BJ Casey, Marvin Chun, Margaret Clark, John Dovidio, Marcia Johnson, Jutta Joormann, Alan Kazdin, Frank Keil, Joshua Knobe, Marianne LaFrance, Gregory McCarthy, Jennifer Richeson, Peter Salovey, Laurie Santos, Brian Scholl, Nick Turk-Browne, Karen Wynn

**Associate Professor** David Rand

**Assistant Professors** Arielle Baskin-Sommers, Steve Wohn Chang, Molly Crockett, Yarrow Dunham, Dylan Gee, Avram Holmes, Julian Jara-Ettinger

**Lecturers** Nelson Donegan, Kristi Lockhart, Mary O'Brien, Matthias Siemer