PSYCHOLOGY

Courses offered by the Department of Psychology are listed under the subject code PSYCH on the Stanford Bulletin’s ExploreCourses web site.

The department, housed in Jordan Hall, maintains many computer-equipped laboratories and the Stanford Center for Cognitive and Neurobiological Imaging (CNI). Bing Nursery School, located on campus at 850 Escondido Road, provides a laboratory for child observation, training in nursery school teaching, and research. It was constructed with funding from the National Science Foundation and a special grant from Mrs. Anna Bing Arnold and Dr. Peter Bing.

The department provides

• courses designed for the general student
• a major program leading to the degree of Bachelor of Arts, including options for honors and a specialization in one of four content area tracks
• an undergraduate minor program
• programs of graduate study and research leading to the degree of Doctor of Philosophy
• a Ph.D. minor

Applications are not accepted for the master’s degree except as noted below.

Mission of the Undergraduate Program in Psychology

The mission of the undergraduate program in Psychology is to introduce students to the theories and empirical studies of human behavior. This includes the study of aging, achievement, child development, cognitive processes, conflict, culture, decision making, emotion, group behavior, health, identity, infancy, language, learning and memory, morality, motivation, personality, psychopathology, race, self, social perception, visual perception, and other related topics. The major provides students with knowledge and skills relevant to professional careers in technology, business, counseling, education, public policy, law, and medicine, as well as graduate studies in Psychology.

Learning Outcomes (Undergraduate)

The department expects undergraduate majors in the program to be able to demonstrate the following learning outcomes. These learning outcomes are used in evaluating students and the department’s undergraduate program. Students are expected to demonstrate:

1. an understanding of core knowledge within the discipline of psychology including relevant theory and research.
2. the ability to analyze a problem correctly using discipline specific methodology.
3. the ability to draw sound inferences and conclusions from data.
4. the ability to write and communicate ideas clearly.

Learning Outcomes (Graduate)

The purpose of the master’s program is to further develop knowledge and skills in Psychology and to prepare students for a professional career or doctoral studies. This is achieved through completion of courses, in the primary field as well as related areas, and experience with independent work and specialization. The master’s program is available only to Ph.D. students in Psychology and, under special circumstances, students enrolled in other graduate programs offered through the University.

The Ph.D. is conferred upon candidates who have demonstrated substantial scholarship and the ability to conduct independent research and analysis in Psychology. Through completion of advanced course work and rigorous skills training, the doctoral program prepares students to make original contributions to the knowledge of Psychology and to disseminate this knowledge.

Bachelor of Arts in Psychology

Major Requirements

Students declaring a major in Psychology must complete a minimum of 70 units of course work in Psychology, 60 of which must be taken in the Psychology department. The remaining 10 units can be taken outside of the Psychology department but must be pre-approved by the student services office or faculty adviser. These courses should represent a coherent thematic focus. One way to achieve this focus is through a field of study. Courses taken to satisfy the 70-unit requirement must be taken for a grade of C- or better (except for courses offered only on a satisfactory/no credit basis). Majors must take PSYCH 1 Introduction to Psychology, and PSYCH 10 Introduction to Statistical Methods: Precalculus. Advanced placement (AP) credit may not be used toward the Psychology major requirements. Beyond these two required courses, students must complete at least five of the following eleven core Psychology courses, with a minimum of two from each area A and B:

<table>
<thead>
<tr>
<th>Units</th>
<th>Area A</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>PSYCH 30 Introduction to Perception</td>
</tr>
<tr>
<td>4</td>
<td>PSYCH 35 Minds and Machines</td>
</tr>
<tr>
<td>3</td>
<td>PSYCH 45 Introduction to Learning and Memory</td>
</tr>
<tr>
<td>4</td>
<td>PSYCH 50 Introduction to Cognitive Neuroscience</td>
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<td>4</td>
<td>Area B</td>
</tr>
<tr>
<td>4</td>
<td>PSYCH 60 Introduction to Developmental Psychology</td>
</tr>
<tr>
<td>3</td>
<td>PSYCH 70 Self and Society: Introduction to Social Psychology</td>
</tr>
<tr>
<td>5</td>
<td>PSYCH 75 Introduction to Cultural Psychology</td>
</tr>
<tr>
<td>3</td>
<td>PSYCH 80 Introduction to Personality and Affective Science</td>
</tr>
<tr>
<td>3</td>
<td>PSYCH 90 INTRODUCTION TO CLINICAL PSYCHOLOGY: A NEUROSCIENCE PERSPECTIVE</td>
</tr>
<tr>
<td>3</td>
<td>PSYCH 95 Introduction to Abnormal Psychology</td>
</tr>
</tbody>
</table>

Students must take one Writing in the Major (WIM) course in Psychology, and should check the Stanford Bulletin yearly as these courses may change. The department also strongly recommends that all majors take at least one advanced seminar.

Students may count up to 10 units of research, independent study, and practica (including but not limited to PSYCH 194 Reading and Special Work, PSYCH 195 Special Laboratory Projects, PSYCH 281 Practicum in Teaching) toward the Psychology major. Students who are teaching assistants for a Psychology course or are enrolled in the senior honors program are allowed up to 15 units in independent study and research. Any units beyond the limit of 10 or 15 may be counted toward the 180 units required for graduation.

Students who are double majoring or completing a minor degree in another department may not overlap (double-count) courses, unless the overlapping courses constitute introductory skill requirements, such as PSYCH 10 Introduction to Statistical Methods: Precalculus. Consult the student services office for further clarification.

Summer Quarter Psychology courses are not equivalent to courses given during the regular academic year and, while applicable toward the 70 units needed for the major, may not be used to fulfill core course requirements. Therefore, PSYCH 1, PSYCH 10, and the Area A and B courses cannot be taken during Summer Quarter to fulfill the major...
requirements. Additionally, a course taken during the Summer Quarter cannot be used to replace the grade of a non-Summer Quarter course, even if the title and units of the two courses are the same.

Beyond the Minimal Requirements

The following recommendations may be helpful to students who wish to plan a program that goes beyond the minimal requirements listed above:

1. Within the general major, the student may take advanced undergraduate or graduate courses (although some require the consent of the instructor), including seminars. The student may also take advantage of widespread opportunities for directed research, working closely with individual faculty and graduate students.

2. The student may apply to the senior honors program, described below.

3. The student may elect to pursue one of four specialization tracks of study: Cognitive Sciences; Health and Development; Mind, Culture, and Society; or Neuroscience, described below.

The training obtained from the pursuit of any of these options is valuable not only for students considering graduate work in Psychology, but also for those thinking of professional careers outside of Psychology in fields such as technology, business, counseling, education, law, public policy or medicine.

Credit from Outside the Department

Psychology majors must complete at least 60 units of course work toward their major at Stanford within the Psychology department. Psychology majors may count no more than a total of 10 units credit from outside the department toward the major. Both majors and minors, under extenuating circumstances, may use one course from outside the department to fulfill core course requirements. Additional courses may be used to fulfill the 70-unit major requirement, but may not be counted as core courses. Please see the student services office for further clarification.

Petition for transfer of credit is rarely granted. In cases where petitioning is necessary, there are two types of credit from outside the department: external transfer credit for courses taken at institutions other than Stanford and credit for courses in other Stanford departments. A student must have already declared Psychology as a major or minor in order to submit a petition for transfer credit. Stanford credit for courses completed at other institutions must have been granted by the External Credit Evaluation section of the Registrar’s Office; those units may be applied toward the 180 units required for graduation. To have credit from outside the department evaluated to fulfill requirements toward the Psychology major or minor, students must complete an Undergraduate Petition form, available from the student services office, and submit it with a course syllabus. Students requesting external transfer credit must also submit a copy of the signed transcript from the External Credit Evaluation section of the Registrar’s Office showing the number of Stanford units granted for the course. The Psychology department then evaluates external credit courses and courses from other Stanford departments to determine if they can be applied toward Psychology major or minor requirements.

Specialization Tracks

Students in the major program, including those in the senior honors program, may elect to specialize in one of four specialization tracks:

- Cognitive Sciences
- Health and Development
- Mind, Culture, and Society
- Neuroscience

These tracks consist of a coherent set of courses leading to advanced undergraduate or even graduate-level courses in an area. In the ideal case, the student who specializes would acquire an understanding of a range of psychological processes, as well as an appreciation of the significance of these processes in the chosen area of application. Specialization in one of the tracks can facilitate preparation for a professional career as well as for graduate work in Psychology.

Participation in a specialization track is optional, although students who do not wish to complete all the requirements for a track may still want to use the track as a guideline for an integrated program in Psychology. Students who choose to complete a specialization track must meet the requirements for the major plus the additional requirements designated for the track. Typically, the courses required for a track include one or two required courses, four to six recommended courses in Psychology, one or two advanced seminars, and three or four courses in related disciplines. Psychology courses completed for the track count toward satisfying the major requirements. Courses from other departments listed for the track may count toward the 10 outside units for the major requirement, but must be pre-approved by the student services office or faculty adviser.

These specialization tracks are declared on Axess upon approval of faculty adviser. They appear on the transcript but not on the diploma.

Honors Program

The senior honors program is designed for exceptional Psychology majors who wish to pursue a year of intensive supervised independent research. Admission to the program is made at the end of the student’s junior year on the basis of:

- excellent academic performance
- previous research experience
- two letters of recommendation by faculty and/or graduate students

Applications are available in April and are to be submitted to the department’s student services office with a current transcript and recommendations prior to the student’s senior year.

Students interested in the program should involve themselves in research as early as possible and should acquire a broad general background in Psychology, including statistics, and a deep background in their chosen area. Typically, students work in their honor thesis adviser’s lab for at least one quarter. The honors program is particularly appropriate for students planning to go to graduate school in Psychology or in other social sciences, as well as in computer science, business, counseling education, law, public policy and medicine.

During Autumn Quarter of their senior year, honors program students participate in a weekly seminar and meet with their advisers to develop their experimental program and begin data collection. Winter and Spring Quarters are devoted to completing the research, analyzing the data, and writing the thesis, which is submitted mid-May. Students give oral presentations of their projects at the annual Honors Convention. This convention is attended by undergraduates, graduate students, and faculty.

Advising

Psychology supports a multiple mentorship model for advising majors. Within the department, students have the following advisers:

- Faculty major adviser
- Student services officer
- Peer advisers

Psychology Department advising is supplemented by support from Undergraduate Advising and Research Academic Advising Directors, the Residential Education dormitory staff, and many other potential advisers.
We encourage our students to reach out to advisers from across the University to develop a robust support network.

**Minor in Psychology**

**Declaration**

Students who wish to declare a minor field of concentration in Psychology must do so no later than the deadline for their application to graduate.

**Degree Requirements**

Completion of a minimum of 35 units in Psychology is required for the minor, including PSYCH 1 Introduction to Psychology and PSYCH 10 Introduction to Statistical Methods: Precalculus, or a comparable statistics course. Advanced placement (AP) credit may not be used towards the Psychology minor.

The minor must include three of ten core courses with a minimum of one from each of two areas and elective Psychology courses of at least three units each, totaling 35 units:

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<tr>
<th>Units</th>
<th>Area A</th>
<th>Area B</th>
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<td>Select a minimum of one of the following:</td>
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<td></td>
<td>PSYCH 30 Introduction to Perception</td>
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<td>PSYCH 95 Introduction to Abnormal Psychology</td>
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</tbody>
</table>

Elective Psychology Courses

Independent study, research, and practica cannot be counted toward the minor. Summer Quarter Psychology courses are not applicable toward the 35 units needed for the minor.

All courses used to fulfill the requirements of the minor must be passed with a grade of 'C-' or better, except for courses offered only on a satisfactory/no credit basis.

**Master of Arts in Psychology**

**Degree Requirements**

- Completion of 45 units of graduate level Psychology courses
- 27 units must be from Core Courses, including two statistics courses
- A maximum of 18 units may be from lab courses, independent study, outside units, and practica (e.g., 222, 258, 269, 281, 297, 282, 290)
- Successful completion of the First Year Project (FYP) or equivalent Master’s thesis

**Policy and Process for Current Psychology PhD students**

Graduate students who are already enrolled in the Psychology PhD program and who have completed (a) the first-year and second-year course requirements; and (b) at least 45 units of Psychology courses may apply for conferral of the MA degree. This application should be discussed with the Student Services Manager.

Students who are currently enrolled in a Stanford PhD or professional program in another Department may be granted a Master of Arts in Psychology. In such cases, admission to the MA is considered by the faculty on a case-by-case basis. An admitted student must complete at least 45 units of Psychology courses and possibly other research or course requirements as determined by the faculty. Interested applicants should consult with the Student Services Manager, Emily Fay (ecfay@stanford.edu).

All applicants must satisfy University residency requirements for the degree and are responsible for consulting with their primary departments or the Financial Aid Office about the effects of the proposed program on their current funding.

Please note: The Department of Psychology does not offer terminal MA degrees for students who are not already pursuing another advanced degree at Stanford.

**How to apply for the Psychology MA: Current Psychology PhD Students**

1. Fill out the application form and obtain your advisor’s signature.
2. Submit the completed application form to the Psychology Student Services Manager, who will obtain the Department Chair’s signature.
3. Submit a request for the Master’s Degree via Axess. In the Student Center tab, select “Petitions and Forms.”
4. Enter your payment and select “Apply to Graduate” in Axess (make sure to select the Master’s, not PhD).
5. Psychology’s Student Services Office will approve your request in Axess.

**Policy and Procedures for External Students Requesting to Pursue a Master of Arts in Psychology**

Graduate students from other Stanford departments/graduate programs may choose to request the opportunity to pursue a Master’s of Arts in Psychology. They are eligible if:

- They are PhD, JD, or MD students in another Stanford department/graduate program AND
- They have secured a Psychology faculty sponsor who agrees to serve as their Master’s research advisor.

**Requirements**

The requirements for the MA are the same for internal (Psychology PhD program) and external (non-Psychology PhD program) students. However, for external students, the MA coursework and thesis must be in addition to the coursework and milestone documents they are using towards their primary PhD. In other words, a student may not use the same course to count towards the unit or content requirements of both degrees; the student must choose which courses count for which degree. Note that students are still bound to the PhD course load cap of 10 units per quarter. Students may count the Psych MA course units towards the requirement to complete 135 units in residence for a PhD (a University requirement), but not towards specific Department/program-level PhD requirements.

If a student requests permission to waive a particular core or methods course requirement (e.g., PSYCH 252) due to overlapping course content with their PhD coursework, the student must petition the Psychology Graduate Program Committee. If this petition is granted, the student must still complete 45 units of Psychology coursework, of which a maximum of 18 can be labs/pracitca/research units. Waiving a course requirement simply means the student replaces the waived course with a different psychology course.

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An external student’s Master’s Thesis cannot overlap with any similar milestone documents that count towards their primary Ph.D. For an external student, a successful Master’s Thesis is a report on a research project in Psychology that is done during the first two years of their Master’s studies. Typically, the thesis is written in the format of a scientific paper including the following sections: (i) an introduction describing the background and theoretical context, (ii) a methods section describing the experimental paradigm, (iii) results detailing experiment outcomes with the appropriate data analyses, statistical analyses, figures, and/or tables, (iv) discussion, and (v) references. Both the primary advisor in the Psychology department and a second reader (must be a Stanford Academic Council member) will read and give the student feedback on their Master’s Thesis, and the student must pass a 1-hour thesis defense at which the work is presented to the advisor and reader.

Process
A successful external MA recipient goes through the following steps:

1. The potential student secures a Psychology faculty research mentor who supports the addition of the MA; have an initial meeting with the Student Services Manager to review the program and set expectations.
2. The potential student submits an application to the Student Services Manager. This application is composed of the following materials: Statement of Purpose, CV, Letter of support from primary advisor(s) in home department.
3. The Student Service Manager collates the application and submits to the area faculty for review.
4. If the area faculty approve, the Student Services Manager confirms Department approval with the student and records the student's commitment to pursue a MA. Note: the student does not formally add the Psych MA program plan in Axess at this time.
5. The student pursues the MA coursework and research under the consultation of the MA advisor. The Student Services Manager is available for logistical advising.
6. The student completes the coursework and submits a MA Thesis. The Thesis is submitted via email to the Psychology MA advisor and secondary reader, cc'ing the Psychology Student Services Manager.
7. The MA Thesis is defended in a presentation to the primary advisor and second reader, and the Thesis is reviewed and approved by both the primary advisor in the Psychology and the second reader.
8. The student submits the MA form, formally matriculates, and the MA degree is available in the system for the student to confer.

As with internal MA students, external MA students matriculate into the MA at the end of the program. This ensures that if a student opts not to complete the MA, we do not need to process a formal withdrawal or dismissal from the MA program.

Funding
The Department does not provide funding for external MA students. If a faculty mentor wishes to engage an external MA student as an RA, the faculty must provide the funds.

Doctor of Philosophy in Psychology

There are no specific course requirements for admission to the doctoral program. Nevertheless, an applicant should have prior research experience, as well as the equivalent of a bachelor’s degree. The Department of Psychology does not require the GRE for admission. The major focus of the doctoral program is on research training, and admission is highly selective.

General University requirements for the Ph.D. are described in the "Graduate Degrees (http://www.stanford.edu/dept/Registrar/bulletin/4901.htm)" section of this bulletin.

In addition to fulfilling Stanford University requirements for the degree, the following departmental requirements are stipulated.

The Doctoral Training Program

A student typically concentrates in one of several areas within Psychology. Across all areas, the training program emphasizes the development of research competence, and students are encouraged to develop skills and attitudes that are appropriate to a career of continuing research productivity.

Two kinds of experience are necessary for this purpose. One is the learning of substantial amounts of theoretical, empirical, computational, and methods information. A number of courses and seminars are provided to assist in this learning, and students are expected to construct a program in consultation with their adviser(s) to obtain this knowledge in the most stimulating and economical fashion.

A second aspect of training is one that cannot be gained from the courses or seminars. This is first-hand knowledge of, and practical experience with, the methods of psychological investigation and study. Therefore, students are expected to spend half of their time on research and to take no more than 10 units of course work per quarter, beginning in the first quarter.

Students achieve competence in unique ways and at different rates. Students and advisers work together to plan a program leading to the objectives discussed above. For further information, contact the student services manager and refer to the Department Graduate Guide available on the Psychology Department web site (https://psychology.stanford.edu/academics/phd-program).

Courses

Ideals

The Stanford Psychology Department values a shared appreciation of the full range of approaches and research questions spanned by the five areas of the department. The department seeks to train scientists who are well prepared to pursue careers that build on their training in any one of these areas and who can interact with researchers in other fields of Psychology. Therefore, students within each area of the department are expected to construct a program of study in consultation with their primary adviser that includes exposure to other areas in the department while also achieving sufficient depth within their own area of specialization to prepare them for their next career stage after graduating.

Requirements

Professional Seminar Requirement

During the first quarter of graduate study, students are required to take PSYCH 207 Professional Seminar for First-Year Ph.D. Graduate Students.

Core Course Requirement

Students are required to take four core courses, each course from a different area of the Psychology department: Affective Science, Cognitive Science, Developmental Psychology, Neuroscience, and Social Psychology, as listed below. All core courses must be taken for a letter grade, for 3 units, and passed with a grade of ‘B-’ or better. Students are expected to complete four core courses by the end of the third year.

Consistent with the program’s goal of fostering breadth and engagement across all areas of the department, students are encouraged to take all five core courses spanning the five areas of the department. If a student takes five core courses, the units and grade of the fifth course are counted towards the student’s advanced units.

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>PSYCH 202</td>
<td>Cognitive Neuroscience</td>
</tr>
<tr>
<td>PSYCH 205</td>
<td>Foundations of Cognition</td>
</tr>
<tr>
<td>PSYCH 211</td>
<td>Developmental Psychology</td>
</tr>
</tbody>
</table>
Students may be required by their advisers to take up to two additional graduate courses in their area of specialization. In these cases, the additional courses are counted towards the advanced units requirement as described below. Students should consult with their adviser about any additional requirements in their area of specialization.

Statistics/Methods Course Requirement
Students are required to take PSYCH 251 Experimental Methods and one of the following Statistics courses:

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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>PSYCH 252</td>
<td>Statistical Methods for Behavioral and Social Sciences</td>
</tr>
<tr>
<td>PSYCH 253</td>
<td>Advanced Statistical Modeling</td>
</tr>
</tbody>
</table>

At least one of these courses must be taken in the first year, and both should be completed by the end of the second year. Statistics courses must be taken for a letter grade and passed with a grade of 'B-' or better.

In the case that a student has already taken similar graduate-level coursework, with the consent of the adviser, the student may petition to substitute an alternative course for one of the two required courses; for example, to take 252 and 253 but not 251, or to take 251 and another upper-division statistics course. Petitions must be submitted to the department’s student services office and approved by the department’s Director of Graduate Studies (DGS).

Students who did not take an undergraduate course in statistics should take PSYCH 10 (STATS 60) in the earliest possible quarter within the first year; this is a prerequisite to any graduate statistics course.

Advanced Units or Ph.D. Minor Requirement
Students must complete 12 units of advanced graduate course work, referred to as advanced units (AU). Students earn AU by taking: (a) non-core graduate psychology courses; and/or, (b) graduate-level courses in other departments comparable in quality to graduate courses offered by the Psychology Department. If there is any question about comparability of courses, the student should consult the adviser, student services, and, in some cases, the graduate program committee chair before taking the course.

Courses taken for a letter grade must receive a grade of 'B-' or better to count towards the advanced units requirement. Students may request to count up to 3 units of undergraduate-level coursework towards the AU requirement. The adviser should support the request and the undergraduate course must be substantive and relevant to the student’s graduate research. Requests to count undergraduate-level coursework must be submitted to the student services manager and may be adjudicated by the Director of Graduate Studies and/or the Graduate Program Committee.

A student may choose to complete a Ph.D. minor in another department in lieu of the advanced units requirement. Students who choose to pursue a minor should register this decision with the student services manager.

Advanced units and/or Ph.D. minors must be completed by the end of fourth year. It is the department’s expectation that all decisions related to the AUs or the Ph.D. minor are made in close consultation with the student’s adviser.

Research
Ideals
The goals of the graduate program in the Stanford Psychology Department are twofold. First, it aims to develop researchers who are expert scholars in the area of their dissertation. The program expect graduates to be fluent in theoretical foundations and debates, empirical findings, and methods of their respective fields. Second, it aims to guide and foster students’ development of an original research program that significantly advances knowledge in their field of specialization. Therefore, the research requirements, implemented in a series of milestones, are intended to help students obtain the necessary research experience, receive expert and constructive feedback from their primary adviser(s) and their committee, and ensure successful completion of their dissertation research at the end of the program.

Requirements
Students are expected to spend at least half of their time engaged in research from the beginning of the first year of graduate study to the completion of the Ph.D., taking no more than 10 units of course work each quarter.

First Year Project (FYP)
At the end of their first year of graduate study, students must submit a written report of their first-year research activities, called the First Year Project (FYP). This report should resemble a journal article in their area. It is written in consultation with their adviser. The FYP proposal is due at the end of Autumn Quarter. The final FYP is due on June 1 of the first year. First-year students must also work with their adviser to identify a second FYP reader (another Psychology faculty member) by the end of October in Autumn Quarter of the first year. Both the adviser and the second FYP reader are expected to read the FYP and provide the student with constructive feedback. It is recommended that students meet with their FYP readers in the summer of the first year to receive feedback.

Dissertation Reading Committee
Students are expected to form a research committee, which must include the dissertation reading committee, before initiating their dissertation research. The research committee includes the dissertation adviser and at least two additional faculty members, for a total of three members, at least two of whom should have primary appointments in the Psychology Department. For University guidelines for the composition of the dissertation reading committee, see the "Graduate Degrees (http://www.stanford.edu/dept/registrar/bulletin/4901.htm)" section of this bulletin.

Students are required to form the committee and submit the Dissertation Reading Committee form to the student services manager by February 1 of third year.

Third Year Committee Meeting and Research Plan
Students are required to meet with their committee annually beginning in their third year. For the annual committee meetings, if a member of the student’s regular committee is unavailable (e.g., on sabbatical), the student should recruit another member of the department faculty to attend instead.

In the third year, students are required to meet with their committee in Winter or Spring Quarter, no later than June 1. At least two weeks prior to this meeting, students must submit a 1-2 page research plan to the committee.

Research Plan
The third-year research plan, which is submitted to the committee, is a short (1-2 page) document containing a brief overview of the experiments that have been completed and the planned experiments. The research plan is due in Winter or Spring Quarter of the third year and no later than two weeks before the committee meeting.

Third-Year Committee Meeting
The goal of the third-year committee meeting is for students to present their planned research and preliminary data, as well as for the faculty to give students feedback on their research plan, feasibility, and progress. During the third-year committee meeting, students present and discuss with the committee:
• Background and hypothesis being tested
• Experiments and methods
• Preliminary results
• Potential outcomes as well as pitfalls

After the committee meeting, students should submit the research plan to the student services manager and report the date that the committee meeting took place.

**Fourth-Year Committee Meeting and Research Plan**

In the fourth year, students are required to meet with their committee in the Autumn or Winter Quarter. At least two weeks before the meeting, they must submit their Area Review and Research Roadmap (ARRR) to their committee.

**Area Review and Research Roadmap (ARRR):**

This document has 2 parts:

1. **Area Review:** A manuscript written in a format of a review paper that summarizes current theories, debates, and empirical work in the area of the dissertation, which ultimately leads to the open questions that will be answered in the dissertation. The goal of writing this document is to enable the students to organize and develop scholarly knowledge relevant to their dissertation research. This document could serve as the basis for the introduction to the dissertation and/or a basis for a review paper. The department expects that this section will be the bulk of the ARRR. It expects students to consult with their adviser on the scope of this document, and to receive feedback from their committee during the fourth-year meeting.

2. **Research Roadmap:** This section is short (1-2 pages) and contains a brief overview of the experiments that will be part of the dissertation. Given that this document is written during the fourth year, it is expected that some of the experiments have been completed, while others are planned/ongoing.

**Fourth-Year Committee Meeting**

The goal of the fourth-year committee meeting is for students to present their research progress and receive feedback from the committee members on the ARRR. The department expects the presentation to start with a review of the relevant work, but focus on the research progress. During the meeting, students present and discuss with the committee:

• Background and hypothesis being tested
• Experiments and methods
• Current Results
• Planned experiments towards dissertation completion

After the committee meeting, students should submit the ARRR to the student services manager and report the date that the committee meeting took place.

**Note:** students who were admitted prior to 2018-19 may choose to use the prior milestone documents (the Dissertation Proposal and Conceptual Analysis of Dissertation Area) instead of the ARRR. This decision should be registered with the student services manager. Refer to the Stanford Bulletin from your entering year for details about these prior requirements.

**Fifth-Year Committee Meeting and Beyond**

The department expects that students complete their Oral Exam by the end of the fifth year. Thus, typically the Oral Exam replaces the fifth-year committee meeting. However, if a student defers the Oral Exam, the student is expected to meet with his/her committee before June 1 of the fifth year to give an update on ongoing research progress and receive feedback. The same applies for sixth year, and so on. After each committee meeting, students should report to the student services manager the date on which the committee meeting took place.

**Oral Examination**

In the Department of Psychology, the Oral Examination takes the form of a dissertation defense. A 5-member committee is formed to review the oral examination. This committee includes the dissertation reading committee, an additional faculty member, and one oral examination committee chair from outside the Psychology department.

The oral examination consists of a 45-minute public presentation to the department of the completed dissertation research, followed by a 10-15 minute period of open questions and answers. Parents and friends are welcome to attend. Following the presentation, the student and the committee convene for a closed part of the oral exam in which each of the committee members asks the PhD candidate questions regarding his/her PhD research. After the closed session, the candidate leaves the room and the committee discusses the outcome of the exam and members anonymously vote whether the candidate passed the oral exam. The total duration of both parts of the oral examination should be less than 3 hours, per University policy.

**Dissertation**

Per University policy, the candidate must complete a dissertation satisfactory to the dissertation reading committee. Typically, the candidate will submit the dissertation to the reading committee 2 weeks prior to the oral examination. Minor revisions to formatting may be made after the oral examination. It is allowable by University policy to have a single additional writing quarter after the defense to finalize the dissertation. The dissertation must be approved and signed by each member of the dissertation reading committee.

Students must complete their oral examination and submit their dissertation before their candidate status expires at the end of the 7th year (per University policy, candidacy status is granted at the end of year 2, and students have 5 years of candidacy in which to complete all requirements). See the "Graduate Degrees (http://www.stanford.edu/dept/registrar/bulletin/4901.htm)" section of this bulletin for more information. The Department will review petitions for a longer candidacy period on a case-by-case basis.

**Teaching Requirement**

The department views experience in supervised teaching as an integral part of its graduate program. Regardless of the source of their financial support, all students spend are required to participate in at least 5 quarters of teaching experience during their graduate study.

Of these 5 teaching quarters, students are required to apply for 2 of the quarters providing teaching support to a service course, either 2 quarters of PSYCH 1 Introduction to Psychology or 2 quarters of a core statistics course: PSYCH 10 Introduction to Statistical Methods: Precalculus, PSYCH 251 Experimental Methods, PSYCH 252 Statistical Methods for Behavioral and Social Sciences, and/or PSYCH 253 Advanced Statistical Modeling. Students report if they prefer the PSYCH 1 path or the stats path (or neutral) in their first year.

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5</td>
<td>PSYCH 10</td>
<td>Introduction to Statistical Methods: Precalculus</td>
</tr>
<tr>
<td></td>
<td>or PSYCH 251</td>
<td>Experimental Methods</td>
</tr>
<tr>
<td></td>
<td>or PSYCH 252</td>
<td>Statistical Methods for Behavioral and Social Sciences</td>
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<tr>
<td></td>
<td>or PSYCH 253</td>
<td>Advanced Statistical Modeling</td>
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Students are prohibited from teaching during the first year of graduate study. Students typically progress from closely supervised teaching to more independent teaching. Some students may be invited to offer a supervised, but essentially independent, seminar during their final year of graduate study.
Individual Development Plan

The Department of Psychology is committed to providing academic advising in support of graduate student scholarly and professional development. When most effective, the advising relationship entails collaborative and sustained engagement by both the adviser and the advisee. As a best practice, advising expectations should be periodically discussed and reviewed to ensure mutual understanding. Both the advisor and the advisee are expected to maintain professionalism and integrity.

In order to meet these advising goals, each student is required to complete an annual Individual Development Plan (IDP) and have at least one meeting with the adviser during the academic year to discuss the IDP. The purpose of the annual IDP meeting is to provide an opportunity to discuss the big picture of the student's progress over the past year as well as goals for the future. To help the IDP prior to the meeting, the student completes a form that promotes self-reflection and self-evaluation, and helps structure the discussion topics with the adviser. During the IDP meeting, the student brings his or her current CV and discusses with the adviser current progress and future goals. During the meeting the student and their adviser develops an action plan for the subsequent year; both keep a copy of this plan.

For details about the IDP forms and process, please visit the Psychology Department website's PhD Program Requirements page (https://psychology.stanford.edu/academics/phd-program/phd-degree-requirements/#Individual%20Development%20Plan). The IDP meeting must take place before June 1 of each year. It is the student's responsibility to report when the meeting has occurred to the student services manager.

Student Evaluations

It is the department's policy for the full faculty to evaluate the progress of each graduate student at the end of Spring Quarter. Traditionally, this meeting is scheduled for the Thursday before Commencement, although this may vary slightly from year to year. The end-of-year evaluation is primarily based on three factors:

1. Quality of research
2. Performance in courses (especially required courses)
3. Recommendations of the advisor (including a commitment on the part of that adviser to continue in that role)

Students who are not making satisfactory progress may be dropped from the program within the policies set forth by the University Senate in the "Graduate Degrees (http://www.stanford.edu/dept/registrar/bulletin/4901.htm)" section of this bulletin.

Advancement to Candidacy

During this annual evaluation, 2nd year students are reviewed for advancement to candidacy. Per University policy, admission to candidacy for the doctoral degree is a judgment by the faculty in the department or school of the student's potential to successfully complete the requirements of the degree program. Further details about candidacy status can be found the "Graduate Degrees (http://www.stanford.edu/dept/registrar/bulletin/4901.htm)" section of this bulletin. By the end of the second year, students are expected to have completed the First Year Project, the required statistics courses, and several other courses from either the Core Course or Advanced Units requirement in order for the faculty to make a clear evaluation of their potential for candidacy.

When students are advanced to candidacy, the student must submit the application for candidacy form (signed by the adviser) to the Student Services Manager by September 1.

Ph.D. Minor in Psychology

Candidates for the Ph.D. degree in other departments may elect to take a minor in Psychology. To obtain a minor, the student must complete 20 units of course work at the graduate level in the Department of Psychology. Crosslisted graduate courses can be used to satisfy this requirement. All courses counting toward the Ph.D. minor must be taken for a letter grade and passed with a grade of 'B-' or better. If the course is not offered for a letter grade, it cannot be counted towards the PhD minor.

Graduate Advising Expectations

The Department of Psychology is committed to providing academic advising in support of graduate student scholarly and professional development. When most effective, the advising relationship entails collaborative and sustained engagement by both the adviser and the advisee. As a best practice, advising expectations should be periodically discussed and reviewed to ensure mutual understanding. Both the adviser and the advisee are expected to maintain professionalism and integrity.

Faculty advisers guide students in key areas, such as selecting courses, designing and conducting research, writing results of research studies as manuscripts for peer-reviewed journals, developing teaching pedagogy, navigating policies and degree requirements, and exploring academic opportunities and professional pathways.

Graduate students are active contributors to the advising relationship, proactively seeking academic and professional guidance and taking responsibility for informing themselves of policies and degree requirements for their graduate program.

For a statement of University policy on graduate advising, see the "Graduate Advising (http://exploredegrees.stanford.edu/graduatedegrees/#advisingandcredentialstext)" section of this bulletin.

Individual Development Plan (IDP)

In order to meet the advising goals described above, each PhD student is required to complete an annual Individual Development Plan (IDP) and have at least one meeting with their adviser during the academic year to discuss the IDP. The purpose of the annual IDP meeting is to provide an opportunity to discuss the big picture of the student's progress over the past year as well as goals for the future. To help the IDP, prior to the meeting the student completes a form that promotes self-reflection and self-evaluation, and helps structure the discussion topics with the adviser. During the IDP meeting the student brings his or her current CV and discuss with the adviser current progress and future goals. During the meeting the student and their adviser develops an action plan for the subsequent year; both keep a copy of this plan.

For details about the IDP forms and process, please visit the Psychology Department website’s PhD Program Requirements page (https://psychology.stanford.edu/academics/phd-program/phd-degree-requirements/#Individual%20Development%20Plan). The IDP meeting must take place before June 1 of each year. It is the student's responsibility to report when the meeting has occurred to the student services manager.

Emeriti: (Professors) Albert Bandura, Gordon H. Bower, Herbert H. Clark, John H. Flavell, Leonard M. Horowitz, Mark R. Lepper, Eleanor Maccoby, Roger N. Shepard, Claude M. Steele, Ewart A. C. Thomas, Barbara Tversky, Philip G. Zimbardo

Chair: Anthony D. Wagner

Director of Graduate Studies: Kalanit Grill-Spector

Director of Undergraduate Studies: Jeanne Tsai
Professors: Laura L. Carstensen, Geoffrey Cohen, Carol Dweck, Jennifer L. Eberhardt, Ian H. Gotlib, Kalanit Grill-Spector, James J. Gross, Brian Knutson, Ellen M. Markman, Hazel R. Markus, James L. McClelland, Dale Miller, Benoit Monin, Russell A. Poldrack, Lee D. Ross, Jeanne L. Tsai, Anthony D. Wagner, Brian Wandell, Jeffrey J. Wine

Professor (Research): Anthony Norcia

Associate Professors: Anne Fernald, Michael C. Frank, Noah Goodman, Gregory M. Walton

Associate Professor (Teaching): Catherine Heaney

Assistant Professors: Alia Crum, Justin Gardner, Hyowon Gweon, Steven Roberts, Daniel Yamins, Jamil Zaki

Lecturers: Parul Chandra, Amie Haas, Mary Peck Peters, Jennifer Winters, Beth Wise

Courtesy Professors: William C. Dement, Gary H. Glover, Jon Krosnick, Fei-Fei Li, Tanya Luhrmann, Robert MacCoun, Bruce McCandliss, William T. Newsome, Robb Willer