

UNIVERSITY OF ARIZONA DEPARTMENT OF PSYCHOLOGY

GRADUATE PROGRAM REQUIREMENTS AND POLICIES

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Ph.D. Program Five Year Plan

Graduate students are expected to complete graduate studies in Psychology within 5 years (6 years for those students in the Clinical program). The suggested time line below is approximate and flexible. Your advisor will assist you in constructing a plan of study that is appropriate for your particular program and training needs. The specific forms that need to be submitted are available [here](#) and referred to below by number. Further details on requirements for the Master's, comprehensive examination, Ph.D. dissertation, and specific program requirements are found within this manual.

1st Year: Master's Proposal

- Complete [relevant ethics training](#).
- Meet with your advisor to outline a plan of study.
- Begin to explore research ideas with your advisor.
- Form your Master's committee, and decide whether to complete the [Master's Thesis or Project](#).
- Prepare a proposal for your Master's and have it approved by the committee.
- Submit the [Master's Proposal form \(Form #1\)](#) to the Graduate Coordinator and complete the Master's Plan of Study via GradPath.

2nd Year: Master's Completion

- Carry out your Master's research project and complete all Master's course requirements, including registering for Master's Thesis (910) or Project (909) credits.
- Write up Master's thesis/project and submit it to the Master's committee for approval.
- Complete the Master's Completion of Degree Requirements via GradPath and submit the [Thesis Acceptance form \(Form #2\)](#) to the Graduate Coordinator.

3rd Year: Comprehensive Examination

- Meet with your advisor: plan the exam and complete the Doctoral Plan of Study via GradPath.
- Form your comprehensive examination committee and submit the committee names via GradPath for approval.
- Meet with your committee members to approve the plan of study and decide on the examination format.
- Submit the [Written Comprehensive Proposal form \(Form #3\)](#) to the Graduate Coordinator.
- Complete the written comprehensive exam or write a comprehensive examination paper.
- Schedule the oral examination with your committee members to be held contingent upon passing the written exam.
- After receiving word that the written exam has been passed, submit the [Written Comprehensives Requirements form \(Form #4\)](#) to the Graduate Coordinator. and submit the Announcement of Doctoral Comprehensive Exam via GradPath. When the oral examination is completed, the committee chair will submit the results via GradPath.

4th Year: Doctoral Dissertation Proposal

- In consultation with your advisor, plan your dissertation research.
- Form a dissertation committee and submit the Doctoral Dissertation Committee Appointment form via GradPath no later than six months prior to the dissertation defense.
- Prepare a written proposal for your dissertation research and have it approved by your committee.
- Submit the [Doctoral Dissertation Proposal form \(Form #5\)](#) to the Graduate Coordinator.
- Carry out your dissertation research.

5th Year: Doctoral Dissertation Defense

- Complete dissertation research and all doctoral course requirements.
- Write up the dissertation research and submit it to your committee at least two weeks prior to the dissertation defense.
- Schedule the dissertation defense and submit the Announcement of Final Oral Defense form via GradPath.
- Complete the dissertation defense and make final revisions to the document before submitting it to the Graduate College.

NOTE: Clinical students will apply for their internship year after completion of the comprehensive examination and the dissertation proposal. See the [Clinical Graduate Student section of Appendix A](#).

Departmental Curriculum Requirements

A graduate student's curriculum comprises the following requirements:

- a set of departmental core requirements, which include departmental required courses
- additional courses in the major program
- courses in a minor area
- an empirical Master's project/thesis
- written and oral comprehensive examinations;
- an empirical Doctoral dissertation.

Required Courses

Departmental required courses include:

- PSYC 500A: Issues of Psychological Theory and Research
- Three graduate level courses in Statistics and/or Research Methods beginning with an overview course (PSY 510). Other courses may include PSY 507a, 507b, and 507c, taken with their required lab sections (PSYC 597a, 597b, 597c). Please note that these 597 lab sections are required with their respective 507 course and will not count as a separate course to meet the 3-course requirement. Other graduate courses in research methods or statistics offered by the Psychology Department or another department may count towards the requirement if approved by the student's advisor and the Director of Graduate Studies. An independent study course that focuses on specialized statistical methods and supervised by an instructor with statistical expertise may also count towards the statistics requirement, with a course outline approved by the student's advisor. A list of current statistical course offerings across departments is included in [Appendix B](#), and courses not listed there may be eligible to count towards the [Statistics/Research Methods requirement with approval of the Director of Graduate Studies.](#) [For more information about graduate course options in statistics, or see the Graduate Training in Applied Statistics \(GTAS\) homepage](#) for the most current information.
- Psy 596T: Teaching of Psychology. This course is a mandatory prerequisite for any student who wishes to teach in winter/summer sessions. Other 3-credit graduate level teaching courses offered through the Office of Instruction and Assessment may be substituted, with prior permission from Dr. Julie Feldman.

Only courses with earned grades of "B" or "A" or "P" or "S" are allowed to count towards degree requirements. These grades reflect adequate or excellent mastery of the course content. Should a student earn a grade of "C" or below, the student has the following options: 1) retake the course to earn a grade better than "C"; 2) Remove the course from the plan of study in the case that it was not a core required course, but rather an elective course; or, 3) arrange an alternative method to demonstrate mastery that must be approved by the student's advisor and program director. Such alternative methods might include retaking an exam, completing a limited independent study with the instructor of the course, or focusing on the specific content within the comprehensive exam.

Transfer Credits

Students accepted into the Ph.D. program who have completed graduate level courses may be able to obtain credit for these courses, up to a maximum of 30 units, in the Ph.D. program. Details about requirements and limits on the number of courses that can be transferred are available from the [UA Policy page](#) and the [Doctoral Policy page](#). Transfer courses that will be used to count in place of a program requirement must be deemed equivalent to courses currently offered in the Psychology department. In order to qualify as a transfer course, students should provide a list of previous courses alongside the course at the University of Arizona that is a program required course, and include a syllabus for each of these courses and provide this package to their advisor. The advisor will then reach out to each faculty member currently teaching the equivalent course for consideration. If the faculty member considers the coursework equivalent, then this confirmation should be forwarded to the Advisor, the Program Director, the Graduate Program Coordinator, and the Director of Graduate Studies. Transfer courses must be approved by the area Program Director and the

Director of Graduate Studies, and ultimately approval is up to the Graduate College. The Graduate Coordinator can provide students with more details on transfer courses. Courses taken before matriculating in the Ph.D. program can only be transferred during the first year of the graduate program.

The Graduate Minor Area

Three options exist for selecting the Graduate Minor Area:

- 1) Select courses in one of the predefined minor areas (see [Appendix C](#) or the links to the right side of [this page](#));
- 2) Select at least 3 courses offered by Psychology and/or other departments or colleges at the University to total at least 9 credits, and have the selection approved by your advisor and comprehensive examination committee. This individualized and potentially cross-departmental option is listed as a minor in Psychology on GradPath;
- 3) Select courses to meet the requirements of a minor area completed through a department other than Psychology. The outside department (or interdisciplinary program) will specify the number of credits required to fulfill their minor requirements, and this number sometimes exceeds nine units. Check the website of the specific outside department for requirements.

More information on minors and dual minors is available on the [UA Policy page](#). A list of other common minors is provided within the [CNS section of Appendix A](#), and these minors are open to any graduate student in Psychology.

PLEASE NOTE: Courses that fulfill departmental requirements may not be additionally counted as fulfilling the minor requirement. For example, students wishing to do a graduate minor in Psychology with an emphasis in statistics must complete 3 statistics courses beyond the basic three-course departmental statistics requirement.

Master's Degree Requirements

Students must complete 30 course units that must include between 1 and 6 Master's project units (Psy 909) or Master's thesis units (Psy 910).

- The Master's research project (Psy 909) may be a focused empirical study or may utilize extant data. The Master's project committee will include two faculty, one of whom must be the primary supervisor in Psychology or in cases of extra-departmental primary advisors, the departmental co-advisor. Students completing the Master's research project must enroll in at least one credit of Psy 909 (Master's Report).
- If a student wishes to archive their Master's research, they may enroll in Psy 910 (Master's Thesis) in lieu of Psy 909. The Master's thesis requires three committee members, one of whom must be the primary supervisor in Psychology or in cases of extra-departmental primary advisors, the departmental co-advisor.
- The Master's proposal should be reviewed and approved by the Master's committee members. Although this approval does not *require* a formal proposal meeting, a meeting is *highly* recommended and at the discretion of the advisor. The proposal should be completed prior to the beginning of the fall semester of the second year.
- The written Master's project report (or thesis) should be completed and approved by the committee prior to the beginning of the fall semester of the third year. Although there is no requirement for a formal Master's defense, a defense meeting is *highly* recommended and at the discretion of the advisor. All revisions to the Master's document should be completed prior to the beginning of the fall semester in the third year.
- In addition to the written Masters' report, all second year students will present their masters research at a research forum held toward the end of the spring semester (late April or early May). Students can elect to present their project as a poster or an oral presentation (in years where this is available). If data collection or analysis are not complete by the time of the research forum, second year students will nonetheless present the background, hypotheses, methods, and implications of their Master's project.

- Students entering the graduate program with a Master's degree from another institution may petition for that thesis to meet our Master's Thesis requirements. To receive credit, the student should provide a copy of the completed thesis to their advisor and one other faculty member in Psychology, who should be selected in consultation with the advisor. The two faculty members will read the thesis and decide whether it meets the Psychology department standards. If approved by both faculty, the advisor will inform the Graduate Program Coordinator and the Director of Graduate Studies that the student has fulfilled the thesis requirement. The student must still participate in the research forum during their second year, presenting work performed while at the University of Arizona.

Comprehensive Examination

The Comprehensive examination is a [requirement of the Graduate College](#) and must be completed before admission to candidacy for the Ph.D. degree. The Graduate College stipulates that the comprehensive examination is intended to test the student's comprehensive knowledge of the major and minor subjects of study, both in breadth across the general field of study and in depth within the area(s) of specialization.

The Comprehensive requirement should normally be undertaken in the third year of graduate study to be completed before the start of the fourth year, but cannot be completed until the Masters thesis/project has been successfully completed and approved. The Comprehensive requirement must be completed before the Doctoral dissertation proposal can be submitted. The Comprehensive examination process entails a written examination, covering the major and minor fields of study, followed by an oral examination of at least one hour and no more than three hours in length.

While most students sit for a written examination comprising a set of examination questions prepared by the student's Comprehensive Examination committee, the Psychology Department allows for other formats for the written portion subject to the approval of the student's Comprehensive Examination committee. Other ways to fulfill the written component are permissible provided that they allow for the demonstration of the student's comprehensive knowledge in the field and their specialization. Examples include writing an integrative review paper (or two such papers, with one for the major and one for the minor), or writing and submitting an NIH or NSF graduate fellowship proposal. In all cases, the format and content of the written exam must be approved by the student's comprehensive examination committee. Please be aware that to meet the Graduate College requirement of demonstrating comprehensive knowledge that includes both breadth and depth as defined above, questions from the oral examination may be required to cover material beyond that contained within the written exam/paper.

The precise format of the examination questions is determined by the advisor and the Comprehensive committee and should follow the guidelines described below.

Steps to be taken to complete the Comprehensive requirement:

- Students should begin discussions with their major advisor concerning the breadth of knowledge that is expected for the Comprehensive exam. The advisor should recommend suitable readings and coursework that are designed to meet the breadth requirement. At the same time, the students should also discuss with their advisor the research areas that will constitute the particular area(s) of specialization. These discussions should begin early in a graduate student's career, preferably during the first year.
- After completion of the Master's requirements, students, in consultation with their major advisor, should form a committee for the Comprehensive examination. The Comprehensive committee must consist of four members, three in the major area and one in the minor area, all of whom are [Graduate Faculty or otherwise approved as "Invited Members" or "Special Members"](#). Special members must be pre-approved by the Head of Psychology and the Dean of the Graduate College. This Comprehensive committee need not include the same members as the Dissertation committee. Three of the four members of the Comprehensive committee should be within the Department of Psychology. Exceptions can be approved jointly by the advisor and the Program Director. Students in clinical must have at least

three core clinical faculty, unless an exception is approved by the Clinical Training Committee.

- Students should arrange to meet with each Comprehensive committee member to discuss the content of the Comprehensive examination. At this meeting, students should seek confirmation of their expectations with respect to the breadth and depth of knowledge required in their exam or other written paper/proposal and the specific content areas that will be covered. Students should request from each committee member suggestions for coursework and a list of readings that are appropriate to the goals of the Comprehensive examination. In the case of a written examination, a reading/topic list may define the content for both the written and oral exams. In the case of a paper/proposal, a more focused reading/topic list may be used to define the content to be covered in the oral exam.
- The student should file the Plan of Study and the Comprehensive Exam Committee Appointment form on GradPath.
- If students elect to complete a written exam, the exam may be in-house-closed-book or take-home-open-book. In-house exams typically allow for 2-3 hours of exam time per examiner, and may be spread over days (usually 2 days). Take-home exams may take up to one day per examiner. The specific format will be approved by the Comprehensive committee.
- The Comprehensive written examination (exam answers or paper/proposal) should be provided to all members of the committee. Committee members base their pass/fail evaluation on the entirety of the written exam/paper/proposal, likely providing the greatest weight to the content with which they are most familiar. Committee members submit their pass/fail/abstain vote directly to the student's advisor. Only one failing vote or abstention is allowed. Two or more failing votes or abstentions constitute a failed exam. A failed written examination (exam/paper/proposal) may be re-taken once at the discretion of the committee, to be completed within the same or subsequent semester.
- After the written portion of the Comprehensive examination has been passed, the student will complete the oral part of the examination with the committee members. The oral exam must be at least one hour and no more than three hours in length. Students are encouraged to schedule a 3-hour block when all committee members can be present (in-person or via video), to take place ideally 1-3 weeks following the completion of the written exam. Given the complexities of faculty schedules, it is wise for students to canvass committee members long before the written exam completion in order to establish a time for the oral examination, with the understanding that holding the oral examination is contingent upon successfully passing the written examination (exam/paper/proposal).
- All committee members must be in attendance (in-person or video) for the duration of the oral exam.
- Questions during the oral exam will focus on areas that ensure that the entirety of the comprehensive examination (written and orals combined) adequately assesses the student's breadth and depth of knowledge in the general and specific specialization. Clarification of aspects of the written exam/paper/proposal may be covered during the oral exam, but it is highly unlikely that exam questions limited to such clarifications would be sufficient; rather, students will be questioned broadly about their knowledge of psychology in general as well as their area(s) of specialization. The student will not be allowed any external aids during the Comprehensive oral examination other than a copy of their written exam/paper/proposal.
- At the conclusion of the oral examination, Committee members will provide a confidential pass/fail/abstain vote using ballots obtained from the Graduate Coordinator. The committee members should consider the student's competency on both the oral examination and the written examination/paper/proposal in casting their votes. Only one failing vote or abstention is allowed. Two or more failing votes or abstentions constitutes a failed oral examination. A failed oral examination may be re-taken once at the discretion of the committee within 3 months of the failed oral exam.

- When the oral examination is completed successfully, the committee chair will return the ballots to the Graduate Coordinator. The committee chair is responsible for initiating the Results of Oral Comprehensive Exam form in GradPath. The chair will receive an email reminder from GradPath, with a link in the email to the form, to submit the results as soon as the oral Comprehensive examination is completed. Failed exams must also be reported via GradPath, and a new date for the oral examination selected, should the committee elect to allow the student to re-take the oral examination.
- Most of the details above are provided in [Graduate College Policy Document](#).

Ph.D. Requirements and Doctoral Dissertation

Students must complete a total of 63 units of coursework for the Ph.D. These include 36 units of coursework within their major area, a minimum of 9 units of coursework to fulfill a minor (for details, see the section on the [minor requirements](#)), and 18 dissertation units. Note that up to 30 units of Master's courses passed with a grade of "A" or "B", and thus not including the thesis or project units, can be counted for the Ph.D. and can serve as either major or minor coursework.

All Ph.D. candidates, having successfully completed the Master's degree and the Comprehensive examination, must complete a dissertation that meets accepted standards of scholarship and that demonstrates the candidate's ability to conduct original research.

Steps to be taken to complete the Doctoral dissertation:

- In consultation with the advisor, students should select a Dissertation committee. [The Graduate College requires](#) a minimum of three members, all of whom must be University of Arizona [Graduate Faculty](#). An optional fourth member may be [Graduate Faculty or approved as a "Special Member."](#) Special members must be pre-approved by the Head of Psychology and the Dean of the Graduate College. Any members beyond the fourth can also be Graduate Faculty or approved Special Members. All dissertation committee members are expected to attend the final defense, either in person or via video. [Students in clinical must have 4 committee members](#), three of whom are core clinical faculty, unless an exception is approved by the Clinical Training Committee.
- Students should develop a proposal for their dissertation research in consultation with their advisor and the Dissertation committee members. The written proposal should review the background literature, provide the specific aims of the project, and detail the methods, any preliminary results, and the scope of the intended work. Once the proposal is submitted to the committee, the student will arrange a meeting with the entire committee to formally present the proposal and obtain feedback. The proposal meeting is best thought of as a working meeting where committee input will enhance the project(s) and also ensure an appropriate scope and scale of work; i.e., neither too large nor too small of an investigation for a dissertation.
- Students must [obtain requisite approvals](#) for their research from the [University Human Subjects Committee](#) or [Institutional Animal Care and Use Committee](#) as applicable.
- It is highly recommended that student obtain approval of their dissertation proposal from all committee members *before* they engage in extensive research projects. The committee is not bound to accept research projects simply because they have already been completed, if they feel that the research project does not meet accepted standards of scholarship. Recognizing that PhD projects can span several years, and thus can involve work that starts before the formal dissertation proposal, it is recommended that students inform their dissertation committee members in an ongoing fashion about their work that is intended to become part of the dissertation proposal.
- A dissertation may include as-yet-unpublished work as well as already-published work deriving from work done while a graduate student at the University of Arizona and where the student is first-author. Published work may also be included in cases where the student is not the first author, if a substantial amount of the work in the publication was carried out by the student. In cases where published papers are included as part of the dissertation, these

published papers are appended to the dissertation in their published format. As detailed in the [Dissertation Formatting Guide](#), when published papers are included, the dissertation must in these cases also include chapters that present a summary of the research, an explanation of the student's contribution if it was not individual research, and an explanation of how this research contributes to the student's field. Thus, dissertations will likely follow one of the following three general formats:

- A monograph of as-yet unpublished work, with introduction and rationale, the results from one or more studies, and an integrative conclusion.
 - A "portfolio" of published papers, which will include an introductory chapter describing the overarching themes of the work, a chapter for each published paper that summarizes the research in that paper along with the student's contributions in the case of collaborative work, and conclusions relevant to the paper and field at large, and finally a general discussion section that integrates the various published papers included in the portfolio.
 - A hybrid of published and unpublished papers, following the format of the "portfolio" just above, but with any unpublished work appearing as a chapter or chapters in the dissertation.
- Please note that [committees may not require that any portion of the dissertation be published](#) before granting the Ph.D. The "portfolio" and hybrid options are available for students who have been engaging in programmatic research as a way to tie together their work for the dissertation. The "portfolio" option is not a way to require work be published in order to receive the Ph.D. Please note also that there is no fixed minimum number of papers necessary for the "portfolio" or hybrid options. It is at the discretion of the student's dissertation committee to determine whether the sum total of the work across the proposed papers/publications is sufficient in scope for a dissertation project.
 - After completing the research projects outlined in the proposal, the dissertation document should be written following the [specific guidelines and formatting provided by the Graduate College](#).
 - The dissertation oral defense should be scheduled so that the dissertation document can be submitted to committee members no later than two weeks prior to the defense. This means that a complete and penultimate draft should be provided to the advisor long before that to allow for the advisor review and final revisions before sending to the committee.
 - Note that all members of the committee must be present at the defense, either in person or via video. Per [Graduate College Policy](#), dissertation defenses at the University of Arizona are required to have a portion that is open to the public. Following the public presentation of the work, the closed examination with only the committee members and the candidate present can begin. While there is no minimum time for a dissertation oral defense, the entire proceedings may not exceed three hours.
 - If a committee has only three members, all members must approve the dissertation. If the committee has four or five members, there may be one dissenting vote.
 - The committee may a) approve the dissertation without revisions, b) approve the dissertation with minor revisions, or c) require major revisions prior to approval. When revisions are required, the committee will provide the student with a written list of required revisions and a date for completion of the revisions. The committee may elect to have the major advisor approve the revised document, or require other or all members of the committee approve the revisions.
 - Once the final version of the dissertation is approved, the chair will send an email to the Graduate Coordinator and the degree specialist in the Graduate College verifying they have accepted the dissertation revisions and submit final paperwork to the Graduate College.
 - Please note the [Graduate College Requirement](#) that the Ph.D. be completed within five years of passing the comprehensive examination.

Specific Requirements for Programs in Psychology

Listed in [Appendix A](#) are specific requirements for each of the programs in Psychology: Clinical, Cognition & Neural Systems, and Social Psychology. Unless otherwise noted by the program, departmental requirements and policies as outlined above regarding the Master's, Comprehensive examination, Ph.D. requirements, Doctoral dissertation, and graduate evaluations apply to ALL graduate students in Psychology.

Graduate Evaluations and the Annual Progress Report

Evaluation and Retention Policy

The Department of Psychology program directors and advisors oversee the performance of all graduate students in order to ensure that they maintain academic standards that have been agreed upon by faculty members in the Department, and that they are making good progress. Graduate students must meet the Psychology Department degree requirements in a timely manner. When a student fails to meet program guidelines for satisfactory progress, the student will receive written notification with a clear statement of what the student must do and a date by which such actions must be completed. Students will be given an opportunity to appeal by following the appeals guidelines stated below. Students who fail to take remedial actions by the deadlines specified may be dismissed from the program, with a recommendation sent to the Graduate College to dismiss the student from the program. Students have the right to appeal such decisions to the Graduate College.

Yearly Evaluations

Each September, each student prepares a progress report that is examined by the major advisor and relevant program director, who jointly prepare written feedback addressing (a) the student's productivity and achievements, (b) the student's progression through the program's milestones, and (c) expectations for the coming academic year. These letters with feedback are then reviewed by the Psychology Department Director of Graduate Studies in order to ensure that evaluation criteria are applied consistently across programs and advisors. The letter serves to establish an agreement between the student and the program regarding performance expectations.

Students are required to discuss the content of the letter with their advisor. If the student disagrees with the content of the letter, they have the option to discuss the letter further with their advisor, the program director, or the Director of Graduate Studies. The outcome of these discussions may be a recommendation to revise the letter. If the student is not satisfied after discussions with the advisor or program director, the appeal will be at the discretion of the Director of Graduate Studies, and finally the Department Head concerning what revisions, if any, will be implemented in the letter. When a student falls behind schedule or in case of sub-standard achievement, the letter serves to provide students with advice regarding steps to remediate problems (e.g., setting deadlines, decreasing activities that are incompatible with timely completion), reminds the student of resources available to them, and notifies them of potential consequences if deadlines are not met.

A student who does not provide a yearly progress report or does not maintain adequate contact with their advisor and the department will be considered inactive and may be dismissed from the program.

Satisfactory progress.

Students must maintain a GPA of 3.0 or higher in order to be considered in good standing in the Graduate College. Students whose GPA drops below 3.0 are automatically placed on probation by the College. Information regarding [probationary status due to grades is available on the Graduate College website](#). In addition to the grade requirements set out by the Graduate College, students in Psychology are expected to complete their graduate studies following a five-year program, completing the following milestones by the end of each year listed, where a "year" is considered a twelve-month period that includes the fall semester, spring semester, *and the following summer months*.

- Year 1: Approval of the Master's proposal
- Year 2: Completion of all requirements for the Master's degree
- Year 3: Completion of written and oral comprehensive examinations
- Year 4: Approval of the Dissertation proposal
- Year 5: Completion of all requirements for the Ph.D.

Note that the five-year plan is extended to six years for graduate students in the Clinical Program to include the internship year.

A student is behind schedule when they:

- Have not had a Masters proposal approved by the end of the first year.
- Have not completed all requirements for the Masters by the end of the second year.
- Have not completed written and oral Comprehensive Examinations by the end of third year.
- Have not completed a Dissertation proposal by the end of the fourth year.
- Have not successfully defended a Dissertation by the end of the fifth year, or the end of the sixth year for students in the Clinical Program.

The Evaluation Letter

The evaluation letter should include several key points:

- The letter should note the student's productivity and achievements, including program milestones such as completing the Masters or comprehensive exams, publications and presentations of their work at professional conferences, and other academic achievements.
- The letter will state where the student is in their 5 year training schedule as outlined in the graduate program handbook. Students are either (a) ahead of schedule, (b) right on track, or (c) behind schedule.
- For students who are on track in the program, the letter will note what the expectations are for the coming year including expected dates of completion for upcoming milestones. If a student is behind schedule, the advisor should note any special circumstances that may have led to the delay in completing the milestones.

Warning Levels and Dismissal from the Program

When the student is behind schedule in their progress, three levels of warning may appear in the evaluation letter:

Level 1 Caution: When a student is behind schedule, the letter will include a plan for getting back on track during the coming year with expected dates of completion for required milestones. The letter should encourage students to prioritize meeting the missed departmental milestone(s). Students should be warned that failure to progress through the graduate program in a timely manner may result in academic sanctions in the future, including being placed on provisional status within the Department of Psychology or being dismissed from the graduate program.

Level 2 Warning: Students who have been given a Level 1 caution in a previous evaluation and who fail to meet all the expectations outlined in the previous letter may be placed on Level 2 warning. In this case, the evaluation letter will state that the student did not meet all of the requirements outlined in last year's letter to remove the Level 1 caution, and that a Level 2 warning has been issued. The letter will encourage the student to develop a plan with the advisor to meet specific requirements with specific deadlines in order to remove the Level 2 warning, and indicate that failure to do so can result in dismissal from the program.

Level 3 Dismissal: Students who have received a Level 2 warning and who have not completed the requirements outlined in the previous evaluation letter will be sent notification that they are being officially dropped from the Psychology Department Graduate Program, with a recommendation sent to the Graduate College to dismiss the student from the program. In order to re-enter the Psychology Graduate Program after dismissal, a student would need to reapply and be considered along with new applicants during the regular graduate recruitment cycle, with the decision to accept the student back into the graduate program at the discretion of the faculty.

A student who believes, with good academic reason, that this decision was improperly applied may appeal or file a grievance with [Graduate Student Academic Services](#) (GSAS) explaining all relevant facts. Such an appeal/grievance must be accompanied by supporting documents and a letter of support from the student's Major Advisor, Director of Graduate Studies, or Department Head and required signatures. The procedure for filing grievances is detailed on the Graduate College website (<https://grad.arizona.edu/policies/academic-policies/grievance-policy>).

Ongoing Assessment of Specific Competencies for Graduate Students

A quantitative system is used to evaluate student competencies in a variety of domains. These domains are assessed repeatedly during a student's time as a student in the program: annually during the student review process; at two or more oral presentations during students' time in residence; and during all major program milestones (e.g., following the oral comprehensive examination, at the dissertation proposal and thesis defense meetings). Additionally, these competencies are assessed each year following the dissertation proposal meeting at an annual meeting of the dissertation committee until the student defends the dissertation. These specific competencies comprise:

1. **Written Communication:** effectively communicates research design, significance, impact, results, and interpretation in writing, including but not limited to research proposals and scientific publications.
2. **Oral Communication:** effectively communicates scientific findings, significance, and the impact of research findings to general scientific and non-scientific audiences through oral presentation.
3. **Scientific Research and Execution:** designs, conducts, analyzes, and interprets original research on significant scientific, methodologic, and/or clinical problems in psychology.
4. **Scientific Knowledge and Concepts in Psychology:** demonstrates depth and breadth of scientific knowledge in their specific field and an understanding of the general foundations of psychological science.
5. **Research Integrity and Ethics:** demonstrates a thorough and applied understanding of the American Psychological Association's Ethical Principles of Psychologists and Code of Conduct, and the ways in which these principles guide all scientific and, if applicable, clinical endeavors.
6. **Multiculturalism and Diversity:** understands and considers the ways that differing and intersecting cultural and social statuses— including but not limited to race, ethnicity, sexual orientation, gender, gender identity or expression, ability/disability, religion, language, socioeconomic status, and age—shape and are shaped by psychological science, and, if applicable, all clinical endeavors.

During each annual review period, your advisors will provide one annual competency rating. At each of the other assessment occasions, two or more faculty will rate the, two or more faculty will rate the student in each competency using the following scale: Novice, Basic Competency, Proficiency, or Mastery. The general expectation would be for students to receive ratings according to their progression through the program:

- novice-level competency (expected for students entering the graduate program or just becoming familiar with the profession-wide competencies)
- basic competency (expected for students at the master's level)
- proficiency (expected for students post-master's level)
- mastery (expected as students are doctoral candidates or complete their PhD).

Ratings are completed and comments provided by faculty using a Qualtrics survey (https://uarizona.co1.qualtrics.com/jfe/form/SV_1Y5KVqGaHwwJlmF), and a copy of the ratings and comments are emailed to the student, and also to the Graduate Coordinator. Students should follow-up with faculty if they do not receive the email evaluation promptly after each assessment occasion.

Graduate College Procedures

The [Graduate Catalog presents university policies](#) that apply to all graduate programs at the University of Arizona.

These include:

- admission requirements
- students' financial obligation
- degree requirements
- scholarship requirements (including criteria for retention and termination and due process, and appeal procedures).

Students are advised to carefully read the relevant sections of the [Graduate College Website](#)

Graduate Student Grievance Procedure

We encourage all students to talk with their Program Director, the Director of Graduate Studies or the Department Head, as well as with one of their graduate student representatives, about any concern they may have. For complaints that are not remediable by the department, a [grievance procedure is available at the Graduate College](#) to graduate students who believe that they have been treated unfairly by a faculty member or the department. Note, however, that complaints that cannot be addressed through this procedure are allegations of discrimination on the basis of gender (including sexual harassment), race, ethnicity, religion and sexual orientation, which must be dealt with by the [Office of Institutional Equity](#); grade appeals and graduate examination appeals, which follow procedures for which are set forth in the [Graduate College Website](#); and complaints against University employees and students that are covered by provisions of the [University Handbook for Appointed Personnel](#) ("UHAP"), the [Staff Personnel Policy Manual](#) ("SPPM"), and the [Student Code of Conduct](#). The Associate Dean of the Graduate College (Margaret Pitts) or other delegate of the Dean of the Graduate College (hereinafter "Associate Dean") shall determine whether a complaint is within the decision-making jurisdiction of the Graduate College.

Most problems can be readily resolved within the college, where faculty members and administrators are more knowledgeable about department and college policies, procedures, and practices. If a student believes that his/her complaint is not otherwise remediable and is within the jurisdiction of the Graduate College, a written request for a meeting may be submitted to the Associate Dean of the Graduate College who shall arrange a meeting within 10 working days.

After this meeting, the Associate Dean may consult the academic college dean, the department head, and any faculty member involved and attempt to resolve the issue informally. If the matter cannot be resolved, the Associate Dean shall determine whether the matter is not otherwise remediable and is within the decision-making jurisdiction of the Graduate College. If so, the Associate Dean shall then ask the Dean of the Graduate College to appoint a review committee as follows, and so advise all parties:

- One faculty member from the student's department, as recommended by the department head;
- Two faculty members who serve on the Graduate Council, one of whom will serve as chair;
- One faculty member at large or graduate program coordinator; and
- One full-time graduate student from the student's college, who may be the college representative from the Graduate and Professional Student Council.

The committee shall design its own procedures. At a minimum, such procedures must include adequate written notice of meetings at which parties shall be afforded an opportunity to present their position. The committee shall also establish time periods within which the individuals involved must respond to requests for information and other requests by the committee; failure to comply within the time allowed

may result in a final decision adverse to the noncompliant individual. Failure to appear for a scheduled meeting may also result in a final decision adverse to the individual who fails to appear. The committee may choose to meet separately with the student, faculty member, department head, or any other individual having relevant information, or it may request short written statements from any or all parties. The committee shall provide a written report with recommendations to the Dean of the Graduate College who shall make the final decision and recommendation. The decision shall be provided to the student, the faculty member, the department head, and the dean(s) of the college(s) involved. For a summary of grievance types and responsible parties, see this [Graduate College page](#).

Guidelines for Teaching Assistants and Instructors

These guidelines should be considered flexible and subject to negotiation between the TA and the instructor at the beginning of each semester. TAs are considered by the University of Arizona as salaried employees and as such do not work by the hour. A 0.5 FTE appointment for the semester has an average workload not to exceed 20 hours per week, or 400-hours for the semester. The 400-hour equivalent position is a number that is put in place to protect the GA from working too much, but not one that requires hours tracking to meet it. GAs are paid a salary, not by the hour.

The Psychology Department views TAs as “Instructors in Training.” As such, TAs may be asked to learn, perform, and ultimately take responsibility for any or all of the duties of a full-time instructor. TAs should work towards goals, products, milestones, but not required to work a fixed number of hours each week. Suggested duties and responsibilities are listed in the form “Guidelines for TA Responsibilities” and the form “Guidelines for Online TA Responsibilities”, available on the [Graduate Student Resources and Forms](#) web page. This form should be completed jointly and signed by the TA and the instructor at the start of each semester.

TAs may be responsible for any or all of the following:

- Grading tests, assignments, papers, drafts of papers
- Constructing, proctoring, and grading tests and exams
- Constructing, carrying out, and grading makeup tests and exams
- Assistance with classes that may include lecturing (no more than three times) and class demonstrations
- Assistance with class materials including photocopying, placing material on reserves, and managing the D2L website
- Office hours** (not to exceed 3 hrs per week), answering student email
- Attending classes
- Reading the textbook or other course materials
- Conduct review sessions or online discussions
- Maintaining class records
- Other duties that may include webpage management, SALT services, or note taking

Please note that the Psychology Department policy is that all courses must have office hours with no single TA being asked to exceed 3 hours per week). Additional student contact time should be negotiated with the instructor.

In general, TAs are not asked to:

- Prepare an instructor’s lectures or PowerPoint presentations
- Do research or readings that are not relevant to the course
- Handle, on their own, incidents of academic misconduct without the instructor’s presence
- Proctor exams on a regular basis without the instructor’s presence. In most large classes, two proctors will be needed; one of these should usually be the instructor. If the instructor is unable to attend, another proctor should be requested.
- Have more than 3 office hours per week
- Guest lecture without adequate notice and time to prepare (~ 1 week).
- Complete grading of exams, papers or drafts without rubrics or reasonably clear grading guidelines

There may be times when these or other tasks are necessary, and these specific circumstances should be discussed and negotiated with the instructor. If a TA is concerned about the tasks they are being asked to undertake, they should discuss this with the Director of Graduate Studies as early as possible in the semester.

Midway through the semester, TAs may request feedback from the instructors concerning their performance. This feedback may be provided on the form "[TA Mid-Semester Evaluation](#)."

At the end of the semester, instructors will be asked to complete the "[Psychology TA Semester Evaluation](#)." Completion of this form is mandated by the Graduate College and the results of this evaluation are reported to the Graduate College. A "Low" evaluation may lead to termination of the TA. The mid-semester feedback is designed to ensure that all students are able to achieve a minimum rating of "Adequate." Please note that this end-of-semester process is going to be replaced by career conversations for the Fall of 2022 onward.

Grader Guidelines

The following guidelines have been developed to facilitate communication between graders and instructors. In order for graders to receive a positive evaluation of their performance at the end of each semester, they should a) have a clear understanding of their responsibilities at the start of the semester and b) have the opportunity to improve their performance during the course of the semester. To ensure that these goals are achieved, the following procedures are recommended.

- Graders will meet with instructors at the start of each semester during which time the duties and responsibilities of the grader will be outlined along with the percentage of time estimated for each of the expected tasks. The instructor and the grader should jointly complete the appropriate sections of the "[Guidelines for TA Responsibilities](#)" and both should retain a copy. Appropriate sections include "Grading Tests" and "Maintaining Class Records". This is intended to be a working document and may be altered during the semester with the agreement of the grader and instructor.
- Graders must be provided with grading keys and/or rubrics for grading all exams, papers, and draft papers.
- Graders will receive supplemental compensation as part of their Graduate Assistant or Teaching Assistant position. As such, graders are hourly employees and must report time on uaccess.arizona.edu TGraders should track their hours and keep the instructor informed as the semester progresses. If additional assistance is needed, it should be requested from the Graduate Coordinator.

Graders may be assigned the following duties:

- Grading of:
 - Tests
 - Assignments
 - Papers (with guidelines/rubric)
 - Drafts of papers (with rubric)
- Maintaining Class Records
- Posting marks on assignments and exams and quizzes
- Developing or posting Answer keys
- Posting announcements

University and other Helpful Resources

University Resources

- Graduate College Policies and Procedures: grad.arizona.edu/policies
- Student Code of Conduct: deanofstudents.arizona.edu/student-rights-responsibilities/student-code-conduct
- Responsible Conduct of Research: rgw.arizona.edu/research-compliance/rcr
- University Catalog: catalog.arizona.edu
- Graduate and Professional Student Council: gpsc.arizona.edu
- Family resources, including childcare, elder care, employee assistance, parental leave and family medical leave: lifework.arizona.edu/cc
- Graduate Center (professional development resources): gradcenter.arizona.edu

Other Helpful Resources

- [Student "How-to" Wiki](#): A compendium of reservoir for all the institutional knowledge and advice that is informally passed from grad student to grad student.
- [Links for those wishing to use the Introductory Psychology Subject Pool](#)

APPENDIX A: Specific Requirements for Graduate Program Areas in Psychology

Clinical Program Requirements

Clinical Program Training Philosophy and Objectives

Curriculum Requirements

Departmental Requirements

Clinical Program Curriculum Required Courses

Provided below is a summary of all the Clinical Program Curriculum Required courses, above and beyond the Departmental Required Core courses, necessary for degree completion. Courses required to be taken in a particular year or paired together are indicated. The semester the course is typically offered, and the usual instructor, are also indicated. However, due to sabbaticals and course buy-outs, the department **cannot guarantee that a particular course will be offered during a particular semester or taught by a particular instructor.**

Foundational Courses

In addition to Departmental Core Courses, Clinical Psychology Students are required to take the following:

- PSYC 586 Ethics [Sbarra] (*Year 1 or 2, Spring of odd years, 3 units*)
- PSYC 582 Advanced Psychopathology [O'Connor] (*Year 1 or 2, Spring of even years, 3 units*)
- PSYC 625b Clinical Research Methods [Taylor] (*Year 1, Spring, 3 units*)

Clinical Training Courses & Practica

The clinical program has two required clinical training sequences, basic assessment and psychosocial intervention, which are described below. Each sequence integrates clinical **practica** with didactic and research training.

Assessment Sequence (Sequence Director: Allen)

The assessment sequence is completed during year 1 and includes a basic theoretical-methodological course and a year-long basic didactic assessment practicum. The following are required:

- PSYC 621 Clinical Assessment Methods [Allen] (*Year 1, Fall, 3 units*)
- PSYC 694a Clinical Assessment Practicum (I) [Allen] (*Year 1, Fall, 2 units*)
- PSYC 694a Clinical Assessment Practicum (II) [Prouty] (*Year 1, Spring, 2 units*)

Intervention Sequence (Sequence Director: Feldman)

The intervention sequence is completed during year 2 and includes a year-long intervention seminar covering theory and methods of two psychosocial intervention (CBT and ACT) and year-long practicum experience. The following are required:

- PSYC 697 Intervention Seminar (I) [Feldman] (*Year 2, Fall, 3 units*)
- PSYC 694b Intervention Practicum (I) [Jacquart] (*Year 2, Fall, 2 units*)
- PSYC 697 Intervention Seminar (II) [Feldman] (*Year 2, Spring, 3 units*)
- PSYC 694b Intervention Practicum (II) [Jacquart] (*Year 2, Spring, 2 units*)
- PSYC 694c Advanced Seminar in Consultation & Supervision [Jacquart] (*Year 3, Fall, 2 units*)

- Externships: Students are required to complete externships in their 3rd and 4th years to accrue the minimum number of clinical hours needed to apply for predoctoral internships (see below). Externships involve clinical work outside the department in university and community agencies. Students are expected to complete a 16 hours per week in the third year and 8 hours per week in the fourth year. 5th year students may choose to complete an additional externship or “plus experiences” with the approval of the DCT. Julie Feldman, Ph.D., is the Externship Coordinator and Community Liaison and coordinates all externship placements.

Electives

The following courses may be taken as electives to cover breadth of scientific psychology requirement and/or to satisfy the minor requirements (see [Appendix C](#) for details):

- PSYC 504a Human Brain and Behavior Relationships
- PSYC 504b Clinical Neuropsychology Practice: Evaluation of the Older Adult
- PSYC 694d Clinical Neuropsychology Practicum
- PSYC 587 Foundations in Health Psychology
- PSYC 588 Behavioral Medicine Interventions
- PSYC 694f Couple & Family Therapies Practicum (1-3 units)

Comprehensive Examination (Written & Oral) and Dissertation Committee Membership

A clinical student’s comps committee comprises four faculty members, at least three of which are core clinical faculty. Students may petition the CTC directly (by emailing the chair of the CTC) to request a change in the core faculty requirement for the comps committee.

Predocutorial Internship

The predoctoral internship is a full-time, 12-month (or, part-time, 24-month) training experience in either a CoA and APPIC-accredited setting, or in a setting approved by the Clinical Training Committee (CTC).

Domain Specific Knowledge

In compliance with the APA’s CoA Standards on Accreditation, our program requires students enroll in coursework that provides Discipline-Specific Knowledge (DSK). CoA conceptualizes DSK as foundational knowledge students must acquire in addition to the competencies required to work effectively as a health service psychologist. The general requirements are listed below and more details can be found in [this helpful document](#).

Breadth of Scientific Psychology (Discipline-Specific Knowledge or “DSK”).

Knowledge is required in the following content areas: affective, biological, cognitive, developmental, and social psychology. [The DSK requirements](#) stipulate that there is a distinction between:

- 1) *Foundational knowledge of DSK*: May be acquired prior to entry into the doctoral program, such as through undergraduate area courses or GRE subject tests, or through graduate-level training.
- 2) *Graduate-level knowledge of DSK*: May be completed in a highly flexible manner.

I. Biological aspects of behavior [area instructor: Allen]

- One of the following courses: PSYC 504a (Brain and Behavior), or PSYC 585 (Psychoneuroimmunology).
- Students may also complete our “portfolio system” for completing this DSK/breadth requirement.

II. Cognitive aspects of behavior [area instructor: Grilli]

- PSYC 506 (Foundations of Cognitive Psychology), or PSYC 504a (Brain and Behavior)
- Students may also complete our “portfolio system” for completing this DSK requirement (see the supporting document describing the portfolio requirements).

III. Affective aspects of behavior [area instructor: O’Connor]

- PSYC 696c (Cognitive and Affective Bases of Behavior [O’Connor])

IV. Social aspects of behavior [area instructor: Sbarra]

- PSYC 560 (Advanced Social Psychology)
- Students may also complete our “portfolio system” for completing this DSK requirement (see the supporting document describing the portfolio requirements).

V. Developmental aspects of behavior [area instructor: Sbarra]

- One of the following courses: PSY 504b Clinical Neuropsychology Practice; PSYC 583a (Lifespan Developmental Psychopathology; SERP 510 (Cognition and Development; in Educational Psychology Dept)
- Students may also complete our “portfolio system” for completing this DSK requirement (see the supporting document describing the portfolio requirements).

More details about specific implementation of this portfolio system and the 696 courses can be found in the pdf file covering [Domain Specific Knowledge \(DSK\) Requirements and Implementation](#). Note: Each semester new courses are added/deleted from the University course catalog. Students who are interested in taking a class not listed above for potential full or partial fulfillment of a breadth area requirement should consult the 696 instructor of record (Allen: Biological; Grilli: Cognitive, O’Connor: Affective; Sbarra: Human Development; and Ruiz: Social) and ask them to evaluate the specific class syllabus in order to determine if the course provides full or partial fulfillment within a specific breadth area. It is the requirement of each student to provide the 696 faculty of record with the syllabi for approval; if a class is not listed above, it cannot be used to fulfill any breadth area requirements without the 696 faculty member’s approval in advance of a student taking the course. Specific details about

Advanced Integrative Knowledge. In addition to the five DSK breadth area requirements, students are also required to take at least one class that provides “advanced integrative knowledge,” defined as a course that integrates at least two of the breadth area DSK topics. Presently, in our curriculum, the following courses provide advanced integrative knowledge. One of the following courses is required:

- PSYC 696c Cognitive/Affective Bases of Behavior (Cognitive Affective)
- PSYC 585 Psychoneuroimmunology (Biological-Affective)
- SERP 601 Cognition and Development in Education (Cognitive-Developmental)
- PSYC 504a Human Brain-Behavior Relationships (Biological-Cognitive)
- PSYC 587 Foundations of Health Psychology (Biological-Affective)

Diversity Science: [Justice Equity Diversity Inclusion \(JEDI\) Curriculum](#) and Infusion into All Aspects of the Curriculum

The Clinical Program implements an infusion model in order to train and educate our students in multicultural competencies broadly, as well as in diversity science and intervention more specifically. We integrate diversity training throughout our curriculum, thus infusing multicultural perspectives into all aspects of training through readings, class activities, and lectures. Training and education in multicultural competencies are addressed in the students’ clinical training, coursework, research, training to be a teacher, and training in supervision and consultation.

Additionally, we strive to make our program a safe space for each person’s individual multicultural development. Our broad goal is to build on their integrated awareness, knowledge and skills related to multiculturalism. Consistent with research and best practice recommendations in multicultural training, we incorporate a range of pedagogical approaches incorporating research, and experiential components: Diversity training is included through both specific readings assigned, through in-class activities and discussion, and through lectures; through their research training, students work with faculty to answer questions related to diversity and study a diverse range of populations; and, multicultural competency is prioritized in students’ clinical training as well ([see link for additional information](#)). Most courses include coverage of cultural diversity and other dimensions of individual differences.

Clinical Psychology Program Expectations & Evaluation

We expect students to develop scientific and clinical competencies. Beyond these specific expectations we also encourage students to use their experience to examine and challenge common clinical and theoretical assertions, and particularly to view their clinical experience as an important source of hypotheses for empirical work. This is congruent with our educational philosophy of preparing students to contribute to the advancement of knowledge in clinical psychology.

Scientific competencies include (a) the ability to plan and implement clinically-relevant research; (b) the ability to collect, analyze, interpret, and report research data; (c) the ability to consume and critically evaluate research reports about clinical phenomena; and (d) familiarity with the literature and ongoing discourse regarding empirically-validated assessment and treatment procedures.

Clinical competencies include both general types of assessment and intervention skills and the ability to implement specific treatments and procedures. In the intervention **practica**, for example, categories of general competency include (a) interviewing skills; (b) establishing and maintaining productive therapeutic relationships; (c) conceptualizing cases, formulating problems, and setting goals; (d) coping with challenges and resistance from difficult clients; and (e) appreciating the impact of one's own behavior and values on the therapeutic relationship. Expectations for professional behavior include: Responsiveness to supervision; professional demeanor (e.g., dress, courtesy to clients and colleagues); organized work habits (e.g., effective use of time, report writing and progress notes, reliability, follow through); relationships with co-workers and contribution to clinical team; cultural sensitivity (e.g., ability to work with different ethnic groups, sex-role sensitivity); and ethical awareness and conduct.

To evaluate the quality of training and students' competencies we use several methods:

1. All graduate seminars require term papers or exams that reflect students' conceptual competencies.
2. Clinical training and competencies are evaluated by both students and supervisors. All supervisors provide written evaluations of students' progress and the students provide written evaluation of their supervisors, supervision, and their own progress. This evaluation process is done once a semester for assessment and intervention **practica**, as well as for **externship** students.
3. A quantitative system is used to evaluate graduate student competencies in a variety of domains, *with additional domains for clinical competencies*. Guidelines for this competency assessment is available under ["Ongoing Assessment of Specific Competencies for Graduate Students."](#)

Links to Additional Clinical Program Documents and Details

- [Clinical Faculty Directory](#)
- [Clinical Program Organizational Structure and Governance](#)
- [Clinical Program Dissertation Details and Requirements](#)
- [Clinical Training Coursework, Externship, and Internship Details](#)
- [Sample Course Sequence Timeline](#)
- [Comprehensive Exam FAQ document](#)

Cognition and Neural Systems Program Requirements

Director: Jamie Edgin (jedgin@email.arizona.edu)

Students in the Cognition and Neural Systems Program meet their Program requirements by following the course of study outlined below.

I. [Departmental Requirements](#)

II. Foundations of CNS: A single semester course in cognition and neural systems (506). Students in the CNS Program generally take this core course during the first two years. PSY 506 provides a basis for understanding how brains acquire, assimilate, store and retrieve information and how they compute adaptive responses to external inputs to generate behavior dynamically. Understanding these processes requires a basic working knowledge of both the theoretical principles and biological mechanisms underlying neural signaling, knowledge representation and data storage. The course integrates coverage of basic concepts, foundational knowledge, and common paradigms in the study of perception, attention, memory, learning, language, and decision-making. Together, the course provides an integrated understanding of cognition and neural systems, with a strong focus on mammals.

III. Two additional breadth courses within the CNS Program: One course from each of the neural systems and cognition columns below (6 units). These courses are subject to change and others may be newly offered. Contact the PD (Edgin) to determine if a course will fill this requirement if it is not listed here.

IV. Two additional courses from either column *or* one course from either column and 3 units of PSY595A: CNS Seminar (a 1-unit course offered fall and spring semesters).

Notes

- Topics courses (e.g. 596F and others) can be taken more than once for credit as long as the topic varies.
- Courses listed with an asterisk (*) can be used to satisfy either the neural systems or cognition requirement.

Neural Systems

- ANTH 531: Primate Sexuality
- ECOL 600A: Fundamentals of Evolution
- ECOL 573: Topics in Behavioral Ecology
- PSY 501a/b: Psychophysiology
- PSY 502: Neuroanatomy (Ryan)
- PSY 503C: Intro to Computational Neuroscience
- PSY 504A: Human Brain-Behavior Relations
- PSY 512: Animal Learning
- PSY 513: Drugs, Brain & Behavior
- PSY 515: The Design of the Mind: Genes, Adaptation and Behavior
- PSY 520: Cognitive Neuroscience of Hearing
- PSY 544A: Computational Cognitive Neuroscience
- PSY 578: Sleep & Sleep Disorders
- PSY 596F: Sleep, circadian rhythms, and neurodegeneration
- PSY 596E: Biopsychology
- PSY 596L: Introduction to Analyses of Neural Time-Series Data
- PSY 597H: Neuroanatomy Lab (take with PSY 502)
- NRSC 560: Systems Neuroscience
- NRSC 582: Topics in Neural Development

- NRSC 583: Topics in Neural Plasticity
- NRSC 587: Biology of Neurological Disease
- NRSC 588: Principles of Cellular & Molecular Neuro
- NRSC 653: Neuropharmacology/Drugs of Abuse
- SHLS 545: Neurogenic Language Disorders in Adults

Cognition

- Biolinguistics LING/PSYCH/PHIL 449A/549A (every spring)
- ECOL 596V: Topics in Animal Behavior and Cognition
- ECOL 587R: Animal Behavior
- FSHD 5647C: Biosocial Development (inquire with FSHD)
- FSHD 567: Theories of Human Development (inquire with FSHD)
- PSY 509: Psycholinguistics of Writing Systems
- PSY 511: Animal Behavior
- PSY 515: The Design of the Mind: Genes, Adaptation and Behavior
- *PSY 524: Gerontology
- PSY 526: Advanced Human Memory
- *PSY 528: Cognitive Neuroscience
- *PSY528: Cognitive Neuroscience: The Cognitive Neuroscience of Imagination
- *PSY528 Cognitive Neuroscience: Introduction to Brain Functional Connectivity
- *PSY 529: Advanced Perception
- *PSY 530: Neural Bases of Language
- PSY 532: Psychology of Language (Fall)
- PSY 533: Theories of Language Development
- PSY 534: Perceptual Learning
- *PSY 536: Topics in Visual Cognition (topics vary by year)
- PSY 538: Computational Linguistics
- PSY 540: The Bilingual Mind
- PSY 542: Lexical Systems
- PSY 551: Philosophy and Psychology (Pragmatics)
- PSY 568: Speech Perception
- PSY 570: Primate Behavior
- PSY 596F: Cognitive Psychology: Special Topics (varies by year)
- PSY 596F: Cognitive Neuroscience: Conscious Mind, Conscious Brain
- PSY 596F Rationality, cognition and decision-making (co-convenes with PSY 496F)
- PSY 596F: Lifespan Cognitive Development
- *PSY 596F: Memory Development
- *PSY 596F: Developmental Cognitive Neuroscience
- PSY 696F: Linguistic Theory and Applications

(*) can be used to satisfy either the neural systems or cognition requirement.

V. Committee Meetings. Entering students are expected to complete appropriate coursework and to set a goal of completing their Master's thesis/project in the second year of the program. By the end of the Spring semester of the first year, students must form a Master's committee of faculty in the Cognition and Neural Systems Program, and meet with them as a group to discuss their coursework plan and the proposed

direction of their research for the coming year. Either at this meeting, or at a subsequent one early in the Fall semester of the second year, students will present to their committee a proposal for their Masters.

Research. In future years, students must organize a meeting with their Committee as a group at least once per year, typically late in the Spring semester. At these meetings, students will give a short presentation on their progress, including a discussion of their completed and in-progress research, the courses they have completed and those they plan to take, and the proposed direction of their research for the coming year. The committee members will advise the students on their plans. Students and committee members will work together to ensure that each student's program of study is sufficiently broad yet tailored to the student's interests. Summaries of these Committee meetings will be given to the Program Director and placed in the student's file.

VI. Seminars. All CNS students are expected to make two presentations a year. One venue for this is the CNS Seminar, held on Wednesdays at noon. All CNS students must attend the CNS Seminar on a regular basis and must make one presentation in the CNS Seminar per year. Venues for the other mandatory yearly talk include various area group and lab meetings and journal clubs.

VII. Annual assessments. For each CNS presentation, and for your masters, orals and dissertation defenses, please obtain evaluations from two faculty members by sending them this link. https://uarizona.co1.qualtrics.com/jfe/form/SV_1Y5KVqGaHwwJlmF)

VIII. Notes about coursework. The menu of courses in the Neural Systems and Cognition columns will change as new faculty members or courses are added. Students may be able to substitute other courses by permission of their committee and the Program Director.

IX. CNS Minors

Students in the CNS Program who choose to minor in CNS may choose any three additional courses after consulting with their minor committee members. From the perspective of the University of Arizona, this would be designated as a major in Psychology and a Minor in Psychology, and this would fit within [option 2 of the Department description of Minor Area](#).

A minor in CNS unaccompanied by a major in CNS can be earned by taking the core course (PSYC 506) and two other courses from either the Neural Systems or the Cognitive column, for a total of 9 units.

X. Other Common Minors

For the full set of guidelines on choosing a minor are, please see the [Department description of Minor Area](#). Common minors for CNS students can include a minor in Statistics (either as [option 2 of the Department description of Minor Area](#), or from another department), [CNS](#), [Health Psychology](#), [Neuropsychology](#), [Cognitive Science](#), and [Program Evaluation and Research Methodology \(PERM\)](#). Your advisor can guide you through the process of declaring a minor and finding a minor advisor. The requirements for the minors differ across program. Two common minors and details regarding them are [Cognitive Science](#) and [PERM](#), detailed here.

COGNITIVE SCIENCE [Minor](#)

Cognitive Science is the interdisciplinary study of the mind, encompassing the study of intelligent behavior as well as the brain mechanisms and computations underlying that behavior. More than 68 faculty members from 16 departments are affiliated with the Cognitive Science Graduate Interdisciplinary Program (GIDP). The interdisciplinary graduate minor (<https://www.cogsci.arizona.edu/programs/minor>) consists of 9 credit hours designed to expose students to the breadth of Cognitive Science topics and methods, and to choose courses that complement their major.

The Cognitive Science Community comes together for weekly talks and Q&A sessions at the Cognitive Science Colloquia (Fridays at noon). Invited speakers from other universities and the UA present their research. Topics range across the interdisciplinary field of Cognitive Science. Students fulfill three units toward the Graduate Minor in Cognitive Science by attending the Cognitive Science Colloquium (COGS 595; 1 credit/semester, for 3 semesters). Students enrolled in the course are invited to continue the discussion over lunch with the speakers.

The graduate minor consists of 9 units, with six units devoted to:

1. Foundations of and Contemporary Topics in Cognitive Science (COGS 517; 3 credits). Seminar taught every other spring (e.g., Spring 2022 and Spring 2024).
2. The Cognitive Science Colloquium (1 credit per semester; 3 semesters). Contemporary research in

Cognitive Science.

The other three units can be chosen from ~80 courses spanning the departments listed on the website, including:

Anthropology	Psychology	Ecology & Evolutionary Biology
Linguistics	Philosophy	Systems & Industrial Engineering
Management	Education	Electrical and Computer Engineering
Nursing	Computer Science	School of Information (ISTA)

Speech, Language and Hearing Science

Travel Support/Award Eligibility

All Graduate Minors in Cognitive Science are eligible for

1. \$300 per year to support the cost of travel to/registration for a conference at which they are presenting a talk or a poster.
2. The Best Research in Cognitive Science Award given at the end of the fall semester (\$100 + presentation of research at a celebration of the UA Graduate Interdisciplinary Programs).

And two other competitive travel awards offered by the Graduate College for GIDP students:

- a. Herbert E. Carter Travel Award Program which provides up to \$600 per year to GIDP students for National or International travel to a professional meeting. Three deadlines per year.
- b. Raphael and Jolene Gruener Research Travel Award for travel to field sites for off-campus data gathering and visits to conduct research in laboratories, libraries or archives at other institutions. This grant does not fund travel to conferences or academic meetings or travel simply to meet with researchers or participate in research for which the student is not a primary researcher.

Cognitive Science students' applications for these awards from the Graduate College have been successful. See <https://www.cogsci.arizona.edu/news>

The Director of the Cognitive Science program is Mary A. Peterson, Professor of Psychology and Cognitive Science, (mapeters@arizona.edu).

PERM Minor

The Graduate Minor in Program Evaluation and Research Methodology (PERM) is open to CNS majors as well as qualifying non-CNS majors, and can be comprised of courses broadly covering a variety of related areas, including: (a) The logic of inquiry and issues of philosophy of science as they apply to psychosocial research; (b) Problems encountered by researchers in personality, family studies, social and clinical psychology, and creative approaches to their data analysis and methodological design resolutions; (c) Research problems and methods particularly relevant to field research; (d) The logic of inquiry and approaches to data analysis appropriate to field trials and quasi-experimental research; (e) The problems of measurement, research design, data analysis, causal inference, and representation of results needing to be resolved in formulating research problems, in determining the legitimacy of conclusions, and in the usefulness of recommendations based on them; and (f) The practical application of theoretical learning within group settings and involving the exchange of ideas and practical methods, skills, and principles. As PERM requires a certain degree of expertise in quantitative methods of data analysis, additional courses have included quantitative courses offered by the departments of Psychology, Educational Psychology, and Family Studies.

The coordinator of the PERM minor is Melinda Davis, Research Assistant Professor of Psychology (mfd@email.arizona.edu).

The "EGAD" (Evaluation Group for Analysis of Data) group meets weekly. Attendees are PERM minors and other students interested in statistical analysis and problem solving. EGAD was started by the late Lee Sechrest and AJ Figueredo in 1987. The contact for EGAD is Melinda Davis, Research Assistant Professor of Psychology (mfd@email.arizona.edu). Any faculty member or student may arrange to present a project in an EGAD meeting to get feedback on approaches to data analysis.

Social Psychology Program Requirements

Graduate training in social and personality psychology at the University of Arizona is based on the research mentorship model. Graduate students are admitted into the Ph.D. program based on their merit as well as the fit of their research interests with those of faculty members in the program. In addition to the core faculty in the social psychology program, there are also faculty both in Psychology and in other departments with strong backgrounds and interests in social/personality psychology and related areas.

The primary purpose of our Ph.D. program is to train graduate students to become expert social and personality psychologists who will go on to contribute to society in the following ways:

- Through high-quality research to advance the scientific knowledge in social/personality psychology.
- Through high-quality research and application of scientific knowledge in social/personality psychology in non-academic settings (e.g., industry, government, and non-governmental organizations)
- Through high-quality teaching of scientific knowledge in social/personality psychology in academic and non-academic settings.

Our program is further committed to training graduate students to use the scientific knowledge in social/personality psychology to understand and help address issues around diversity, equity, and inclusion.

The Social Program has seven core faculty member, Alyssa Croft, Jeff Greenberg, Matthias Mehl, Jeff Stone, Daniel Sullivan, Tammi Walker, Jiah Yoo, and several faculty members in neighboring programs and departments that contribute greatly to the program. Social-cultural and social-health psychology represent two core areas of research interest and expertise in our program that are each represented and supported by several faculty in the program. Beyond that, our program has additional strengths in prejudice, stereotyping and discrimination, social identity, wellbeing, attitudes, existential social psychology, personality psychology, and psychology and law. Finally, our program aims at bridging the “notorious methods divide” and trains students in both laboratory (e.g., experimental approaches) and field methods (e.g., ambulatory assessment).

To be an effective social/personality psychologist, when you graduate from the program, we want you to have:

- A broad knowledge base within social/personality psychology as well as relevant knowledge from neighboring disciplines that intersect with social/personality psychology;
- A strong understanding of (experimental and non-experimental) research methods;
- A strong understanding of statistical methods and data science;
- Extensive experience with the full research process from idea generation to publication;
- Experience with teaching courses in social/personality psychology .

To achieve these goals, we expect the following from our graduate students:

1. Participation in all graduate courses offered by the program faculty (1 or 2 each year). Graduate courses provide background in specific areas of social/personality psychology. They also represent a forum for scholarly discussion, feedback giving and taking, brainstorming and developing collaborations.
2. Participation in research from the first semester in the program until completion of the Ph.D. Students are expected to actively immerse themselves into research and pursue (or contribute to) a research project in their first year. A Master's Thesis is to be completed by the end of the second year and a Dissertation is to be completed by the end of the fifth year.
3. Experience TA-ing and teaching courses in social/personality psychology and related areas. Teaching is an important way to develop breadth of knowledge and to practice teaching and mentoring.
4. Completion of a 9-credit minor (a departmental requirement). The minor requirement provides breadth to your research and studies. It adds knowledge and skills that are often useful in seeking employment upon completion of the Ph.D. Your choice of minors in the department include: clinical, cognitive, health, neuropsychology, statistics, or an individualized (“eclectic”) minor comprising three courses totaling at least

9 credits. Minors outside the department (e.g., Family Studies and Human Development, Communication, Public Health, Marketing, Gender and Women's Studies) are possible with your advisor's permission.

5. Completion of the Comprehensive Exam (departmental requirement). The Social Program offers two ways to complete the Comprehensive Exam:

- One option is to complete the written portion of the comprehensive exam through an exam based on agreed-upon reading lists. With this option, the candidate identifies a reading list with each of the four committee members (three from the major and one representing the minor). The exam then generally takes the following form: The student receives 3 questions from each examiner of which only 2 (each) must be answered. The exam extends over two days (Day 1 morning and afternoon; Day 2 morning and afternoon) and the student has 3 hours (2 x 90 min) for each of the four sets of questions. Use of resources (i.e. notes, books) is allowed, and the exam can be taken in-house or as take-home. Deviations from these procedures can be agreed upon.
- Another option is to complete the written portion of the comprehensive exam by submitting a (review-style) paper to the committee that is of publishable quality and broad and integrative in scope (i.e. it bridges different topics). If this option is chosen, the reading list for the oral exam and the committee's oral exam questions should overlap substantially with the different topics covered in the paper. To the extent that the paper does not organically cover enough topics from the four areas, some additional readings can be added by the four committee members to ensure sufficient breadth; those readings should complement the topic of the paper in related or intersecting areas.
- With both options, the candidate's readings should include and the (written and/or oral) exam should feature at least one question on topics around diversity, equity, and inclusion.

6. Active participation the Social Psychology Brown Bag Series: The Social Psychology Brown Bag Series is the "cultural heart" of the program. It is the one consistent time where the entire program comes together to discuss research and other issues pertaining to training and careers in social/personality psychology. At the end of the first year in the program, graduate students are generally expected to present on their research in form of a Brownbag presentation. This presentation can take different forms, taking into account the status of the project at the time of the presentation (e.g., whether data collection and/or analysis is active or completed).

7. Active participation in departmental, program, and lab meetings:

- *Colloquia and other activities involving visiting Social/Personality psychologists*. The Department Colloquium Series usually includes 2-3 social/personality psychologists; occasionally unofficial visits occur as well. Students have the opportunity to meet and help host visiting colloquium speakers. Engaging with visiting scientists is a great way to extend your intellectual network beyond the department.
- *Participation in recruitment of new graduate students and faculty job searches*. Getting involved with various recruitment activities provides students with insight into the job market and experience with evaluating applicants. Current graduate students are expected to support the recruitment of new graduate students (e.g., participation in the yearly events around Recruitment Day).
- *Lab meetings* provide an important opportunity for all aspects of research, training, and careers in social/personality psychology, particularly as they pertain to your specific interests and subarea.

8. Participation in conferences. Scientific conferences provide excellent opportunities to get to know and acquire broad knowledge in the field of social/personality psychology, present your research, meet other people and form connections. Conferences also provide helpful platforms for career questions including forums on and connections to non-academic job opportunities. Please talk to your mentor(s) about what conferences might be of most interest to you. The annual conference of the *Society for Social and Personality Psychology (SPSP)* is our field's "home conference".

9. Broad exposure to the research and findings in all areas of social/personality psychology. Because our program is small, we cannot offer coursework to cover all areas within social/personality psychology. Therefore, to develop a broad knowledge base of the field, graduate students are expected to read broadly, including classic and contemporaneous work, and keep up with theoretical and empirical progress in the field. At the end of the program, students should be familiar with the major theories, state of research, and trends in all of the field's main areas. Regular browsing/reading of selected social/personality and general

psychology journals as well as key handbooks and series within the field will greatly aid this effort. Your mentor(s) will help guide you in these efforts (e.g., help you decide which journals and handbooks or series are a good fit for you).

The following are the major areas about which you should have knowledge of the fundamental theories and methodologies: Aggression, Attitudes and Persuasion, Culture, Emotion, Group Dynamics, Health, Stress, and Coping, Interpersonal Attraction and Close Relationships, Interpersonal and Intergroup Conflict, Personality Variables and Processes, Prejudice and Stereotypes, Prosocial Behavior, The Self, Social Cognition, Social Influence, Social Neuroscience

10. Optimizing the program training for your individual training and career goals. Finally, to be successful on the (academic and/or non-academic) job market, graduate students need to go beyond the minimal department and program requirements and make their doctorate “their own” in the sense of shaping the content of their training to fit their training and career goals. This includes (but is not limited to) going beyond the provided standard training (e.g., coursework) in statistical methods (e.g., acquiring experiences in data science and/or qualitative methods) and identifying and preparing for career opportunities outside of academia (e.g., participating in job panels, doing an industry practicum).

APPENDIX B: Available Graduate Training in Applied Statistics (updated March, 2022)

Graduate students quickly learn that success in research requires a solid understanding of statistics. Additionally, advanced statistical expertise often gives graduate students an advantage on the job market. There are many statistics courses offered at the University of Arizona, but given the size of the University, it is easy to get overwhelmed with options, not knowing whether a graduate course in statistics is too advanced or too basic. The goal of this website is to help students find courses in statistics that meet their research goals and that are a good fit to their background.

Each participating academic program has its own course requirements, so please check the Graduate Handbook for your department and speak to your academic advisor before registering for classes. An overview of available classes, including when they are generally offered, is provided below (see “Course Overview”). More detailed descriptions are provided under “Course Descriptions”. The instructors of the courses listed below have discussed the content covered in each course and developed class sequences that are optimal for different students, depending upon your previous training in quantitative research methods (see “Suggested Course Sequences”). Additional intermediate and advanced classes should be chosen based on your research area and interests.

COURSE OVERVIEW

Note: The following list refers to courses taught during the academic year. In some cases, an alternate version of a class may be offered during the summer, but those may differ in the content and software from that listed here. see the Graduate Training in Applied Statistics (GTAS) homepage for the most current information: <https://gtas.arizona.edu>

Course #	Topics	Software	Offered
	<i>Introductory & Intermediate</i>		
EDP 541	Descriptive statistics, hypothesis testing, t -tests, ANOVA, correlation, simple regression, chi-square	R	Every Fall
PSYC 510	Descriptive statistics, hypothesis testing, probability, distributions, t -test, chi-square, ANOVA, regression, non-parametric tests, emphasizes working with real data from your own research	R	Every Fall
FSHD 537A	Hypothesis testing and Bayesian inference, model selection and cross validation, general linear model including t -test, ANOVA, correlation, multiple regression, logistic regression, repeated measures, multivariate models	R	Every Fall
EDP 641	Multiple regression, logistic regression, intro to multilevel models (a.k.a. hierarchical linear		

Course #	Topics	Software	Offered
	modeling), emphasis on nesting of students w/in classes	R	Every Spring
FSDH 537B	Missing data, mediation, moderation, person-centered analyses	Mplus & R	Every Spring
PSYC 507A/597A	Philosophy of science, continuous parameter estimation, general linear model including ANOVA, correlation, multiple regression, mixed GLMs	UniMult 2	Every Spring
ANTH 595D	Approximately equal attention to [1] R programming (2) data visualization, and (3) statistical procedures using R. Statistical modeling includes t-tests, ANOVA, linear regression, multiple regression, mixed-models, clustering and dimension reduction.	R	Every Fall
	<i>Advanced</i>		
EDP 646a	Matrix algebra, eigenvalue decomposition, T^2 , MANOVA, discriminant, canonical correlations, PCA, EFA, CFA	R	Every Fall
FSDH 617C	Multilevel modeling (a.k.a. hierarchical linear modeling), emphasis on occasions nested w/in people, error structures, dyads, traditional maximum likelihood and Bayesian approaches	R	Fall even years
FSDH 617A	Confirmatory Factor Analysis, Structural Equation Modeling, measurement invariance, latent mediation/moderation, latent APIMs, growth curves	Mplus & R	Fall odd years
EDP 558	Classical Test Theory, Generalizability Theory, Item Response Theory	jMetrik & R	Spring even years
PSYC 507B/597B	Cascade Modeling, Structural Equations Modeling, Confirmatory and Exploratory Factor Analysis, including Multi-Group CFA and Biometric Behavioral-Genetic Models	EQS	Every Other Fall
PSYC 507C/597C	Variance Component Models, including Repeated Measures ANOVA, Growth Curve Analysis, Hierarchical Multi-Level Modeling, Generalizability Analysis	SAS	Every Other Fall

COURSE DESCRIPTIONS
INTRODUCTORY /
INTERMEDIATE

EDP 541: Introductory Statistics in Education

This is a great first class if you have little or no prior training in quantitative research, or you've taken classes before but didn't feel like you understood them, or you are nervous about statistics. It covers all the basics and moves a little slower than the other introductory classes, but it still provides the foundation you will need to advance to intermediate classes (e.g., sampling distributions, logic behind null hypothesis significance testing, statistical vs. practical significance). The course is taught using the R Statistical Computing platform and you will learn the basics you need to use it for data analysis.

PSYC 510: Statistics Fundamentals

This is a great first class if you've taken one or two statistics classes and sort of understood them. The class emphasizes working with your own data right from the beginning. It covers the logic of statistical inference and hypothesis testing, as well as all the fundamentals, such as descriptive statistics, data transformation, t- tests, regression, ANOVA, and non-parametric tests, such as chi-square, Wilcoxon and Kruskal Wallis tests. The course is taught using the R Statistical Computing platform, and you will learn both basic and more advanced skills for data analysis and visualization.

FSHD537A/L: Introduction to Statistical Analysis

This is a great first or second class if you've taken one or two statistics classes and think you understood them. The class covers both traditional Null Hypothesis Significance Testing (NHST) and Bayesian inference, as well as model selection. It emphasizes the general linear model, which includes all the fundamentals (t-test, ANOVA, correlation, multiple regression) and a few more advanced topics (logistic regression, repeated measures and multivariate models). The course is taught using the R Statistical Computing platform and you will learn both basic and more advanced skills for data analysis.

ANTH 595D: R programming for data visualization and analysis

This is a great first or second class. It is unlike a traditional statistics course in that it focuses roughly equally on learning the R programming language, developing data visualization skills, and implementing statistical models in R. The programming part of the course introduces the R environment and skills related to reading/writing data, functions, control structures, data tidying and data manipulation/aggregation. The data visualization part of the course focuses on effective methods for conveying information through statistical graphics. It introduces the primary graphics systems in R, with a focus on the grammar of graphics and the ggplot2 package. The data analysis portion of the course covers a variety of statistical models at a conceptual level (little to no math) and includes: t-tests, ANOVA, bivariate linear regression, multiple regression, mixed models, and a brief overview of dimension reduction and clustering techniques.

EDP 641: Selected Applications of Statistical Methods

Advanced Linear Models. This is a great second or third class for most people. The class covers multiple regression, logistic regression and introduces multilevel models (a.k.a. hierarchical linear models) with a focus on individuals (e.g., students) nested in groups (e.g., classrooms). The course is taught using the R Statistical Computing platform and you will learn both basic and more advanced skills for data analysis.

FSHD 537B: Intermediate Statistics

This is a great second or third class for most people. The class covers mediation, moderation, missing data handling and introduces person-centered analyses. The course is taught using MPlus and R.

PSYC 507A/597A: Statistical Methods in Psychological Research

This is a great second or third class if you would like to get a better grasp of the “big picture” and the concepts underlying statistical methods. The class covers the philosophy, history and methodology of science, as well as all the fundamentals, such as correlation, ANOVA and regression models. It also introduces the Continuous Parameter Estimation Method and its use with the UniMult2 software package.

ADVANCED

EDP 646A: Applied Multivariate Statistics in Education

This is a great advanced class if you would like to develop an understanding of matrix algebra and apply it to multivariate analyses. Topics covered include Hotelling’s T-squared, MANOVA, discriminant analysis, canonical correlation, scale development (including PCA, EFA, & CFA), and cluster analysis. The course is taught using R.

FSHD 617C: Multilevel Modeling

This is a great advanced class if your research interests include longitudinal or time-varying processes. The course provides a complete introduction to multilevel modeling (a.k.a. hierarchical linear models), with an emphasis on time nested within individuals, who may also be nested within larger social units such as dyads. Both traditional maximum likelihood and Bayesian approaches are included. The course is taught using R.

FSHD 617A: Structural Equation Modeling

This is a great advanced class for most people, since structural equation models (SEM) are used across many different research domains. The course provides a complete introduction to SEM, including confirmatory factor analysis, mean and covariance models, mediation/moderation and latent growth curves. The course is taught using Mplus, with students having the option of using R instead.

EDP 558: Tests & Measurements

Measurement theory. This course is appropriate at an intermediate and/or advanced level, and is best for individuals with heavy measurement interests (e.g., How much error is in scores we get from a test or measure? What sources of measurement error are present and how substantial are they? How well do items match the ability levels of people in the sample? Do Likert categories function the way we expect them to?). The course covers three theories of measurement: Classical Test Theory (heavy focus on reliability), Generalizability Theory, and Item Response Theory. Each theory includes one or more analyses for test scores as well. Knowledge of ANOVA, correlation, and covariance is assumed.

PSYC 507B/597B: Statistical Methods in Psychological Research (Part II)

This is a great third or fourth course if you want to understand the fundamentals of multivariate modeling as applied to causal analysis and latent variable modeling. The class explores a family of related variants of these approaches, including cascade modeling, structural equations modeling, confirmatory and exploratory factor analysis, multi-group confirmatory models, and biometric behavioral-genetic models.

This course will be using EQS statistical

software. PSYC 507C/597C: Research Design &

Analysis of Variance

This is a great third or fourth course if you want to develop a deeper understanding of the more general theory underlying ANOVA. The content of the course is being expanded beyond ANOVA and into an entire family of generalizations of what is essentially the same model, collectively called variance component models. Such models include growth curve analysis, hierarchical multilevel models, and generalizability analysis. These will be taught as an integrated system of ideas rather than a patchwork quilt of methods. This course will be using SAS statistical software, or possibly switch to R if there is sufficient interest.

SUGGESTED COURSE SEQUENCES

NO STATISTICS BACKGROUND

EDP 541 → FSHD 537A or PSYC 510 or EDP 641 → any advanced courses (EDP 646a, FSHD 617C, FSHD 617A, EDP 558, PSY507A)

BASIC STATISTICS BACKGROUND (INTRO COURSE OR TWO IN UNDERGRAD OR PREVIOUS GRAD PROGRAM)

FSHD 537A or PSYC 510 → EDP 641 or FSHD 537B or FSHD 617C → any advanced courses (EDP 646a, FSHD 617C, FSHD 617A, EDP 558, PSY507A)

STRONG STATISTICS BACKGROUND (COMING IN WITH MULTIPLE COURSES)

FSHD 537A or PSYC 510 or EDP 641 → FSHD 537B or any advanced courses (EDP 646a, FSHD 617C, FSHD 617A, EDP 558, PSY507A)

SUGGESTED ADVANCED COURSES BASED ON RESEARCH FOCUS

Individual Differences/Longitudinal Data Analysis - EDP 641, EDP 646a, FSHD 537B, FSHD 617A, FSHD 617C

Measurement/Psychometrics/Latent Variables - EDP 558, EDP 646a, FSHD 617A

APPENDIX C: Predefined Minors within the Department of Psychology

CLINICAL NEUROPSYCHOLOGY MINOR

Philosophy and mission

Our Clinical Neuropsychology Minor emphasizes understanding basic mechanisms in neuropsychological disorders and developing, evaluating, and disseminating new approaches to assessment and treatment. Our training is designed to ensure that our students receive broad exposure to and develop advanced skills in the following: (1) neuropsychological theory and research methods, particularly those drawing upon current developments in cognitive psychology (e.g., modern models of executive functioning) and cognitive neuroscience (e.g., neuroimaging techniques), and (2) broad-based skills in general clinical psychology, particularly those related to assessment and intervention across the adult lifespan. We encourage students to develop additional specialized research and clinical expertise (e.g., gerontology, psychophysiology, development of new assessment methods, neuroimaging, etc.) that will make them more broadly competent and competitive in the job market.

The Clinical Neuropsychology Minor is open to students outside of the clinical psychology PhD Program and our training is designed to be applicable to other subdisciplines and fields.

Didactics

Completing the Minor in Clinical Neuropsychology involves completing a three-course sequence. This sequence is guided by the Clinical Scientist training model, but also adheres to the Houston Conference Guidelines for neuropsychology training and the American Board of Professional Psychology's (ABPP) expectations for certification eligibility in clinical neuropsychology. Specifically, we cover the foundations of brain-behavior relationships (Houston Conference Guidelines) and the eight core knowledge areas of neuropsychology (ABPP) through a three-course sequence blending science and practice.

This course sequence consists of:

PSYC 504a Human Brain and Behavior Relationships

PSYC 504b Clinical Neuropsychology Practice: Evaluation of the Older Adult

For the third course, clinical psychology PhD students are required to take:

PSYC 694d Clinical Neuropsychology Practicum

Students pursuing a degree other than a PhD in clinical psychology can take 694d, or they can opt to replace 694d with an alternative course within the scope of neuropsychology/cognitive neuroscience. The minor advisor will review and approve the third course, if not 694d.

504a, 504b, and 694d are described in detail below. Students typically complete 504a and 504b in Year 1. In Year 2, students complete 694d, which is a two-semester course (or an alternative, one-semester third course). Students are also encouraged to consider other courses in cognitive psychology, biopsychology, and neuroscience (e.g., neuroanatomy, fMRI course).

Human Brain and Behavior Relationships (504a) covers fundamental topics in human neuropsychology for graduate students who are interested in clinical neuropsychology and related clinical fields, educational applications of neuropsychology, and/or studying clinical populations from a cognitive neuroscience perspective. Topics include motor control, perception, language, learning and memory, attention, executive functions, emotion, and social cognition. The role of demographic factors (e.g., education, race/ethnicity, age) is examined throughout the course. Functional neuroanatomy is covered in detail, in particular in relation to neuropsychological conditions that commonly affect major domains of cognition and emotion.

Clinical Neuropsychology Practice: Evaluation of the Older Adult (504b) builds on the foundations of 504a and examines clinical applications of this knowledge base and the assessment of cognitive and affective sequelae of human central nervous system disease/damage, with emphases on disorders associated with aging, including Alzheimer's, Parkinson's, fronto-temporal, and other dementias. Clinical implications and potential interventions for cognitive decline in elderly patient groups are reviewed, as well as the use of

neuroimaging and neurological methods to clinically evaluate brain function and dysfunction in the elderly.

Clinical Neuropsychology Practicum (694d) is a two-semester practicum (3 credit units in the fall, and 2 credit units in the spring) intended to provide graduate students with advanced knowledge and practical instruction in skills central to being a clinical neuropsychologist or a professional in related fields, including assessment, consultation, supervision, and patient feedback. Students receive exposure to a range of neuropsychological assessment problems and instruments through classroom instruction, case presentations, and clinical assessment experience in the Behavioral Health Clinic and our Satellite Neuropsychology Clinic. Students also are exposed to clinical neurology and interdisciplinary care through case conferences at Banner Alzheimer's Institute and Neurology Grand Rounds and Stroke Case Conference. In this practicum, students evaluate individuals representing a wide age range, from young adulthood to the "oldest old", and they see the spectrum of educational, occupational, language of origin, and ethnic and cultural diversity that characterizes Southern Arizona. Ethical issues are examined in the presentation of every assessment discussed in the practicum. Students also gain supervised experience providing feedback and developing treatment plans.

Additional Clinical Training Expectation for Clinical Psychology PhD Students

Most clinical psychology PhD students pursuing the clinical neuropsychology minor are seeking advanced practical training that will prepare them for predoctoral internships and postdoctoral fellowships that emphasize clinical neuropsychology, and ultimately a career as a clinical neuropsychologist. These clinical students are expected to complete a yearlong, 12-15 hour per week externship in clinical neuropsychology, and they are encouraged to supplement this training in a subsequent year with another neuropsychology externship requiring a smaller time commitment (e.g., 8-10 hours per week). The Clinical Neuropsychology Minor offers several neuropsychology-oriented externships with licensed psychologists, many of whom are board-certified in clinical neuropsychology. Currently, externship placements include Banner Alzheimer's Institute, several private practices in Tucson, and our Behavioral Health Clinic.

Between the course sequence, externships, and the assessment practicum in Year 1, our program follows the general clinical training guidelines for a Major Area of Study in Clinical Neuropsychology, according to the taxonomy of training in clinical neuropsychology (https://scn40.org/wp-content/uploads/taxonomy_clin_neuro.pdf). To meet full criteria for a Major Area of Study students also must engage in relevant research.

HEALTH PSYCHOLOGY AND BEHAVIORAL MEDICINE MINOR

Philosophy and mission

Our Health Psychology and Behavioral Medicine Minor is dedicated to the scientific study of psychological and behavioral processes in health, illness, and health care. While Health Psychology has traditionally been a discipline-specific domain, Behavioral Medicine describes an interdisciplinary field that integrates behavioral, psychosocial, and biomedical sciences. Health Psychology and Behavioral Medicine apply biopsychosocial principles and research findings to prevention, diagnosis, treatment, and rehabilitation. Our training is designed to provide broad exposure and develop advanced skills in the following: (1) foundational theories and mechanisms in health psychology, and (2) behavioral medicine interventional science. Cross-cutting themes include research methods, health equity, and disease-specific knowledge.

The Health Psychology and Behavioral Medicine Minor is open to graduate students across the university. This includes students in the psychology PhD programs, as well as students in other graduate programs. The training is cross-disciplinary and applicable to future training and professional opportunities across many subdisciplines and fields.

Didactics

Completing the Minor in Health Psychology and Behavioral Medicine involves completing a three-course (total of 9 units) sequence, consisting of:

PSYC 587	Foundations of Health Psychology
PSYC 588	Behavioral Medicine Interventions

For the third course, students can choose from a number of relevant courses. Courses may vary each year in their availability, based on offering and prerequisites. Potential courses include (but are not exclusive to):

PSYC 501A	Principles of Psychophysiology
PSYC 585	Psychoneuroimmunology
ANTH 536A	Medical Anthropology
EPID 615	Cancer Epidemiology and Prevention
HPS 577	Sociocultural and Behavioral Aspects of Public Health
NURS 600D	Emerging Research in Aging and Healthcare

Additional Information for Clinical Psychology PhD Students

Most clinical psychology PhD students pursuing the Health Psychology and Behavioral Medicine minor are seeking, in addition to foundational didactics, advanced research and clinical training that will prepare them for predoctoral internships and postdoctoral fellowships that emphasize health psychology and behavioral medicine. These clinical students are expected to conduct relevant research, complete two year-long externships that have a behavioral medicine focus, and complete at least one semester in PSYC 694H (Health Psychology Practicum). The Clinical Psychology Program offers several specialized externships with licensed psychologists, many of whom have completed specialized postdoctoral training in clinical health psychology. Currently, externship placements focused on Health Psychology and Behavioral Medicine include the Behavioral Health Clinic, Cancer Center, Sports Medicine, and Sleep Medicine clinics.

Between the course sequence, externships, and research expectations, our program follows the general guidelines for a **Major Area of Study in Clinical Health Psychology**, according to: *APA Guidelines: A Taxonomy for Education and Training in Professional Psychology Health Service Specialties and Subspecialties* (<https://www.apa.org/ed/graduate/specialize/taxonomy.pdf>) and the Council of Specialties in Professional Psychology (<https://www.cospp.org/clinical-health-psychology>). Furthermore, our program is recognized as a Member Program by the Council of Clinical Health Psychology Training Programs (https://www.cchptp.org/d8/member_programs).

APPENDIX D: Department of Psychology Workplace Climate Resources and Anti- Harassment Guidelines

The Department of Psychology aspires to create a workplace and educational climate that is welcoming, positive, inclusive, and free of harassment in any form. The purpose of this document is to support these efforts and to provide resources, as well as guidance, for graduate students who have concerns about inappropriate behaviors within and around the Department.

What Resources Are Available?

For students concerned about others' behavior, including the behavior of fellow graduate students, faculty, or any other staff or student in the Department, the University of Arizona has a set of standard policies about expectable and appropriate behavior. In effect, the University's policies are resources students can consult to understand boundaries of appropriate workplace behaviors and what can be done to help when there are concerns. Our Department advises students to consult the following resources:

On the UA Human Resources website:

<https://hr.arizona.edu/employees-affiliates/workplace-climate>

On the Psychology Department website:

<https://psychology.arizona.edu/people/ua-policies-and-resources>

Office of Institutional Equity:

<https://equity.arizona.edu/>

The UA Graduate College:

<https://grad.arizona.edu/new-and-current-students>

The UA Title IX policy and procedures:

<https://deanofstudents.arizona.edu/title-ix-policies-reporting-resources>

Guidance When Concerns Arise?

Although the Department and University aim to create a positive workplace and educational climate, we also recognize that concerns arise and that providing students with guidance on how to manage or address these concerns is welcome and important.

In general, we encourage graduate students to discuss any and all workplace concerns with their primary faculty advisors/mentors. (Students should be aware that there are situations involving sexual harassment or other sex discrimination that trigger mandated reporting under Title IX, and if a faculty advisor becomes aware of such concerns, she or he must initiate a report through the Office of Institutional Equity.) If students feel more comfortable speaking directly with department administrators, they may contact their area director, the Director of Graduate Studies (DGS), or the Department Head directly. We encourage our students to voice any concerns and to express these concerns until they are dealt with in a satisfactory manner; in some instances, this may mean consulting more than one faculty member, or approaching the DGS or Head after having met with your advisor and/or area head. The University Ombuds Program is designed as a "confidential, informal, impartial, and independent resource for effective communication, collaboration, and conflict management." Students may reach out to the Ombuds Program directly: <https://ombuds.arizona.edu/>.