

# Psychology, PhD

Graduate study in psychology is designed for students seeking the PhD. Students enrolled in the doctoral program may elect to receive a Master of Arts (MA) when they have completed the necessary requirements.

## Learning Outcomes

Students will:

- develop skills to design and carry out independent and team-based research projects;
- develop an understanding of multiple statistical techniques to support independent data analysis skills;
- develop skills to effectively communicate research results to a range of audiences in both written and oral formats;
- develop the capability to independently teach a course; and
- follow the highest ethical standards when conducting research and communicating results.

## Requirements

The Doctor of Philosophy program in psychology requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative and program grade-point average of at least 3.00 to earn the degree. The 72 s.h. required for the PhD includes at least 33 s.h. in the Department of Psychological and Brain Sciences. All students must satisfy, through one of several options, requirements in statistics and research methods. Those entering without previous graduate work usually require at least five years to complete the program; those entering with previous graduate training may require less, depending on the nature of the earlier preparation.

The PhD program places a strong emphasis on preparation for research, teaching, and other scholarly endeavors, whether in academic settings or in industrial, governmental, or medical institutions. The intent is to produce graduates who are deeply committed to the study of psychology, familiar with fundamental knowledge about psychological processes, well trained in the methods and techniques for careful investigation of basic and applied problems, and determined to make contributions to the discipline of psychology and to society.

Graduate training is organized in three broad areas: behavioral and cognitive neuroscience, clinical science, and cognition. The department also offers an individualized graduate training option that allows students to design their own course of study. Within and across those areas, graduate training may be guided by additional organizing themes such as developmental science, developmental psychopathology, visual perception, health psychology, and social psychology. Entering students are expected to identify one of the three broad areas as their primary area and to follow a specific program that develops a thorough understanding of the substantive material and methods of investigation central to that subdiscipline, combined with the student's specific research goals. Regardless of specialty training, all students must meet course requirements in statistics and research methods, and they are expected to take courses in content areas other than their primary one. The training area programs are sufficiently flexible to permit students to develop substantial competence in a second training area.

During each of the first two semesters, graduate students ordinarily take two or three courses—for example, a statistics course, a course or two in the primary training area, and/or an outside area elective. Students also begin their research under the supervision of their advisor and with the guidance of their research advisory committee.

Near the end of the fall semester of the second year, students submit a report describing their research to date. At the beginning of the following semester, they present their research at the annual graduate research symposium.

During subsequent years, students continue selected coursework in their training and interest areas and continue to develop their research programs. In addition, they develop a prospectus for the dissertation research and take the comprehensive examination, which covers material in the specialty area. The final year is devoted primarily to conducting the PhD study and writing the dissertation. In the PhD final examination, students present an oral defense of their dissertation and are expected to relate the dissertation work to broader issues in the discipline of psychology.

## Graduate Training Areas

### Behavioral and Cognitive Neuroscience

The program in behavioral and cognitive neuroscience focuses on the analysis of learning, memory, attention, motivation, aging, sensory processing, and sleep, in both human and nonhuman subjects, through the application of behavioral and biological principles. Special faculty strengths are in the neurobiology of learning and memory, cognitive neuroscience, motivation and emotion, developmental psychobiology, comparative psychology, neuropharmacology, neuroendocrinology, and neuroanatomy. Students in this program have the opportunity to learn state-of-the-art techniques in computer-controlled experimentation and electronic instrumentation as well as advanced analytic and laboratory methods in neurophysiology, nonhuman neurosurgery, histology, neuroimaging, and assays of biochemical activity.

Faculty members in the behavioral and cognitive neuroscience area interact extensively with colleagues in other divisions in the department, in the Iowa Neuroscience Institute, and in many basic science and clinical departments in the Carver College of Medicine, including anatomy and cell biology, otolaryngology—head and neck surgery, pharmacology, internal medicine, pediatrics, psychiatry, and neurology. These collaborative activities provide excellent research and training opportunities for students interested in emerging interdisciplinary fields.

### Clinical Science

The clinical science training program emphasizes a scientific approach to the understanding of psychological disorders and the influence of psychological factors on human relationships and health. The program is accredited by the Psychological Clinical Science Accreditation System (PCSAS), has been continuously accredited by the Commission on Accreditation of the American Psychological Association since 1948, and is a charter member of the Academy for Psychological Clinical Science.

The program is designed for students who are interested primarily in helping to advance scientific understanding of clinical phenomena and in acquiring the research skills necessary to do so. Faculty members and students have active research collaborations with colleagues from many

departments in the university's Carver College of Medicine and College of Public Health and at the VA Iowa City Health Care. Many of the program's faculty members conduct externally funded research programs that use cutting-edge behavioral science to develop an improved understanding of mechanisms, processes, and interventions for mental disorders. Faculty members have strong training records, and the program's graduates have gone on to top-tier research, teaching, and clinical service positions.

The clinical psychology program provides first-hand clinical experience and opportunities to develop clinical competence that are integral to clinical research. It closely integrates practicum experience in the Seashore Psychology Clinic with coursework and supervised research experience. Advanced students have opportunities to gain additional clinical experience through placement in the Benton Neuropsychology Clinic, Women's Wellness and Counseling Service, adult and child psychiatry clinics, the VA Iowa City Health Care, and other venues. After five to six years of on-campus work, including completion of all coursework and most of the dissertation, students serve a one-year internship at an approved site.

## Cognition

The cognition training area is guided by the philosophy that understanding cognitive processes requires an understanding of how they develop and interact with other cognitive processes. In this pursuit, the area strives for empirical and theoretical rigor.

The area's laboratories have overlapping research domains, so most topics are studied by multiple laboratories with multiple methodologies. Areas of strength include categorization, computational modeling, cognitive control, cognitive development, language and language learning, learning and memory, visual cognition, attention, and working memory.

Students in cognition take basic courses and seminars in specialty areas, but they devote most of their time to research activities. Students work closely with a faculty mentor at first and then become progressively independent as they gain knowledge and skills. The program encourages students to work with more than one faculty member, both in the program and across the department and the university. Students often combine basic work on cognition with work in areas such as neuroscience, neuropsychology, psychiatry, educational psychology, and human factors engineering.

## Individualized Graduate Training Option

The purpose of the individualized graduate training option is to provide flexibility to graduate students who want to pursue a specialized course of study that does not easily fit within the other three graduate training areas. This training option also may be appropriate for students who have strong interdisciplinary research interests involving coursework in other departments. Students can choose the individualized training option when applying to the PhD program, or may petition the committee on graduate studies to switch to the individualized option after beginning the PhD program. Oversight of students in the individualized training option is provided by the student's research advisory committee, the director of graduate studies, and the committee on graduate studies.

## Admission

Since the graduate program in psychology is designed primarily for students seeking the PhD, all applicants are considered on that basis.

The application deadline is Dec. 1. Applications may be submitted at any time but are considered only once each year—between Dec. 1 and Feb. 1—for admission the following fall. Admission decisions are based on a composite consideration of prior academic and research performance, letters of reference, and the applicant's statement about background and purpose. Admission materials are reviewed initially by faculty members in the applicant's primary training area.

An undergraduate major in psychology—including a laboratory course in experimental psychology, a course in statistics, and additional work in the natural sciences and in mathematics—is desirable but not required. Students who have not had such a background but are strongly qualified on other grounds may be admitted. They may be asked to remedy deficiencies in background work with certain courses or independent study before embarking on the regular graduate program.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

All students admitted to the PhD program in psychology are guaranteed five years of financial support, as long as they make satisfactory progress and remain in good academic standing. Financial support is provided through fellowships, teaching assistantships, research assistantships, and traineeships, depending on merit and availability. No separate application for financial aid is required.

## Career Advancement

Learn more about careers in psychology at the American Psychological Association website.