PhD final examination, students present an oral defense of conducting the PhD study and writing the dissertation. In the specialty area. The final year is devoted primarily to comprehensive examination, which covers material in a prospectus for the dissertation research and take the to develop their research programs. In addition, they develop coursework in their training and interest areas and continue research at the annual graduate research symposium. Students submit a report describing their research to date. At the of their research advisory committee.

During each of the first two semesters, graduate students ordinarily take two or three courses—e.g., a coursework, 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 (PCSAAS), 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.