Psychological and Brain Sciences

Chair
• Jodie M. Plumert

Undergraduate major: psychology (B.A., B.S.)
Undergraduate minor: psychology
Graduate degrees: M.A. in psychology; Ph.D. in psychology
Faculty: http://www.psychology.uiowa.edu/people/faculty
Web site: http://www.psychology.uiowa.edu

The Department of Psychological and Brain Sciences offers an undergraduate major and minor as well as graduate degree programs. It also offers courses that undergraduate students in all majors may use to satisfy the General Education Program Social Sciences requirement and a First-Year Seminar designed for entering undergraduate students.

Undergraduate Programs of Study
• Major in psychology (Bachelor of Arts, Bachelor of Science)
• Minor in psychology

The major in psychology is designed to contribute to students’ general liberal arts and sciences education and to provide a foundation for postbaccalaureate training in psychology and closely related disciplines as well as areas such as business, law, communication, medicine, and the allied health sciences. Students who intend to enter the job market immediately after completing an undergraduate degree should complement their psychology major with substantial preparation in another program more closely tied to the world of work (e.g., education, social work, business, journalism, nursing). Almost all vocational opportunities in psychology require advanced degrees.

The psychology major for the Bachelor of Science is intended for students who plan to pursue advanced work in psychology or in a related discipline. It requires a specific grade-point average for admission and certain courses in statistics, experimental psychology, mathematics, and natural science. The psychology major for the Bachelor of Arts has fewer specific requirements and puts less emphasis on methodology. Both programs leave time for students to supplement the psychology major with another program of study.

Students who change to a psychology major after two years of undergraduate work may find they do not have sufficient background for the B.S. program. They may wish to enrich the B.A. program with courses in experimental psychology and other advanced electives if they intend to pursue graduate work in psychology or a related field.

Students in either program begin with a general introductory course, followed by biological psychology, statistics, and methodology courses and introductory courses in several broad areas: developmental science, clinical psychology, cognitive psychology, and social psychology. These courses are followed by upper-level psychology course work selected by each student.

The department maintains excellent facilities to support teaching and research on human and animal behavior. All faculty members are directly engaged in research, and they bring to their undergraduate teaching the excitement that such activity generates. Many opportunities exist for interested and capable students to participate in current research projects in the department.

The department has an active undergraduate organization, the Iowa Students Psychology Association, which is open to all interested students. The group sponsors speakers, films, career days, and student symposia.

ADMISSION TO THE MAJOR

Admission to the psychology major for the Bachelor of Arts is open; any University of Iowa undergraduate student may enter the B.A. program.

Admission to the major for the Bachelor of Science is selective. To be eligible for admission to the B.S. program, students must have completed 30 s.h. of college course work (excluding any credit by exam) and must have a cumulative g.p.a. of 2.67 or higher. There is no limit on the number of qualified students admitted to the B.S. program. Students who do not meet the minimum admission requirements may petition the department in writing, presenting additional evidence of their qualifications.

Entering first-year and transfer students who have completed less than 30 s.h. of course work and are interested in entering the B.S. program are admitted to the B.A. program until they satisfy the admission requirements for the B.S. program. New transfer students who meet the admission requirements for the B.S. program may choose to enter the B.S. or the B.A. program.

Any student in the B.A. program may switch to the B.S. program if he or she meets admission requirements at the time of the request. Students may switch from the B.S. to the B.A. program at any time.

Bachelor of Arts, Bachelor of Science

The Bachelor of Arts with a major in psychology requires a minimum of 120 s.h., including 44-46 s.h. of work for the major, with at least 29 s.h. in psychology courses. The Bachelor of Science with a major in psychology requires a minimum of 120 s.h., including 53-55 s.h. of work for the major, with at least 36 s.h. in psychology courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences General Education Program. Transfer students must complete at least 15 s.h. of the major at the University of Iowa.

The major for the B.A. is designed for students who wish to gain considerable knowledge in psychology but do not necessarily plan a professional career in the discipline. It is appropriate for students preparing for careers in law, business, counseling, social work, or secondary school teaching (see "B.A. or B.S. with Teacher Licensure" below). It can be combined with a second major more easily than can the Bachelor of Science program.

The major for the B.S. emphasizes research methodology, so the B.S. may be the degree of choice for students.
who plan to do graduate work in psychology and related research fields. However, a Bachelor of Science is not required for graduate study in psychology.

Choice of a degree program should be dictated by a student’s personal career goals. B.A. students interested in pursuing graduate study in psychology or other social sciences may enrich their program by taking courses in mathematics, statistics, research methods, and the natural sciences.

B.A. and B.S. students complete the same psychology core and psychology electives. The major for the B.A. also requires an additional statistics or computer science course plus a second concentration area, while the major for the B.S. also requires a pair of natural science courses, one semester of calculus, and an additional mathematics course.

The Department of Psychological and Brain Sciences enforces a strict regression policy. This rule applies to PSY:1001 Elementary Psychology. Students who have not previously taken PSY:1001 Elementary Psychology but have completed a course in psychology with a higher number may not take PSY:1001 Elementary Psychology for credit.

This rule also applies to students who want a second-grade-only option for the course. Students must retake PSY:1001 Elementary Psychology for a new grade before enrolling in or completing any other psychology course with a higher number. Students may not later retake the first introductory psychology course for a second grade after completing a more advanced course.

The psychology major requires the following courses or their equivalents.

**Common Requirements (B.A. and B.S.)**

**PSYCHOLOGY CORE (B.A. AND B.S.)**

All psychology majors (B.A. and B.S.) complete the following course work for the psychology core.

**Psychology—all of these:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PSY:1001 Elementary Psychology</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>PSY:2701 Biological Psychology</td>
<td>4 s.h.</td>
</tr>
<tr>
<td>PSY:2810 Research Methods in Psychology</td>
<td>4 s.h.</td>
</tr>
</tbody>
</table>

**Statistics—one of these (3-4 s.h.):**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>STAT:1020/PSQF:1020 Elementary Statistics and Inference</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>STAT:1030 Statistics for Business</td>
<td>4 s.h.</td>
</tr>
<tr>
<td>STAT:3510 Biostatistics (recommended for B.S. students)</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>STAT:4143/PSQF:4143 Introduction to Statistical Methods (recommended for B.S. students)</td>
<td>3 s.h.</td>
</tr>
</tbody>
</table>

**LOWER-LEVEL PSYCHOLOGY ELECTIVES (B.A. AND B.S.)**

B.A. and B.S. students take three of these (9 s.h.) after completing PSY:1001 Elementary Psychology.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY:2301 Introduction to Clinical Psychology</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>PSY:2401 Introduction to Developmental Science</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>PSY:2501 Introduction to Social Psychology</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>PSY:2601 Introduction to Cognitive Psychology</td>
<td>3 s.h.</td>
</tr>
</tbody>
</table>

**UPPER-LEVEL PSYCHOLOGY ELECTIVES (B.A. AND B.S.)**

B.A. and B.S. students take three advanced psychology courses (total of 9 s.h.) after satisfactorily completing the psychology core and other specified prerequisites. Psychological and brain sciences courses (prefix PSY) numbered 3000 or above may be used to fulfill this requirement, except those in the following list.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PSY:3994 Research Practicum in Psychology</td>
<td>arr.</td>
</tr>
<tr>
<td>PSY:3995 Advanced Research Practicum</td>
<td>1-3 s.h.</td>
</tr>
<tr>
<td>PSY:3996 External Practicum in Psychology</td>
<td>1-3 s.h.</td>
</tr>
<tr>
<td>PSY:3997 Teaching/Advising Practicum in Psychology</td>
<td>1-3 s.h.</td>
</tr>
<tr>
<td>PSY:3998 Individual Readings and Projects</td>
<td>1-3 s.h.</td>
</tr>
<tr>
<td>PSY:4020 Laboratory in Psychology</td>
<td>4 s.h.</td>
</tr>
<tr>
<td>PSY:4090 Psychology Seminar</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>PSY:4990 Honors Thesis Research</td>
<td>1-3 s.h.</td>
</tr>
</tbody>
</table>

**Additional Bachelor of Arts Requirements**

**COGNATE REQUIREMENT (B.A.)**

Psychology majors earning a B.A. complete one of the following upper-level statistics or computer science courses. Students who fulfill the psychology core statistics requirement (above) with STAT:3510 Biostatistics or STAT:4143 Introduction to Statistical Methods must use a different course to fulfill the cognate requirement.

**Statistics:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON:2800 Statistics for Strategy Problems</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>STAT:3120 Probability and Statistics</td>
<td>4 s.h.</td>
</tr>
<tr>
<td>STAT:3510 Biostatistics</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>STAT:4143 Introduction to Statistical Methods</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>STAT:6513 Intermediate Statistical Methods</td>
<td>4 s.h.</td>
</tr>
</tbody>
</table>

**Computer science:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS:1020 Principles of Computing</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>CS:1110 Introduction to Computer Science</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>CS:1210 Computer Science I: Fundamentals</td>
<td>4 s.h.</td>
</tr>
</tbody>
</table>

**SECOND CONCENTRATION AREA (B.A.)**

B.A. students complete 9 s.h. of course work in a single department other than psychological and brain sciences. Courses used to fulfill this requirement must be taken at the University of Iowa and may not be used to fulfill General Education Program requirements. A second major or a minor may be used to fulfill the requirement.

**Additional Bachelor of Science Requirements**

**PSYCHOLOGY TOPICS COURSES (B.S.)**

Psychology majors earning a B.S. take both of these.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY:4020 Laboratory in Psychology</td>
<td>4 s.h.</td>
</tr>
<tr>
<td>PSY:4090 Psychology Seminar</td>
<td>3 s.h.</td>
</tr>
</tbody>
</table>
NATURAL SCIENCE COURSES (B.S.)
B.S. students are required to complete one of the following pairs of specified natural science courses (at least 7 s.h.).
One semester each of chemistry and biology
One semester each of chemistry and physics
Two semesters of chemistry
Two semesters of physics
All of these combinations can be used to fulfill the General Education Program natural sciences requirement. Students should consult with their advisors concerning specific courses that satisfy these requirements.

CALCULUS AND ADDITIONAL MATHEMATICS (B.S.)
B.S. students must complete at least one semester of calculus; in most cases, students also must have completed at least one precalculus mathematics course.
One of these:
MATH:1380 Calculus and Matrix Algebra for Business 4 s.h.
MATH:1460 Calculus for the Biological Sciences 4 s.h.
MATH:1550 Engineering Mathematics I: Single Variable Calculus 4 s.h.
MATH:1850 Calculus I 4 s.h.
B.S. students also complete at least one additional course in advanced mathematics, statistics, or computer science chosen from the following lists.
Mathematics:
MATH:1560 Engineering Mathematics II: Multivariable Calculus 4 s.h.
MATH:1860 Calculus II 4 s.h.
MATH:2700 Introduction to Linear Algebra 4 s.h.
Statistics:
ECON:2800 Statistics for Strategy Problems 3 s.h.
STAT:3120 Probability and Statistics 4 s.h.
STAT:6513 Intermediate Statistical Methods 4 s.h.
Computer science:
CS:1020 Principles of Computing 3 s.h.
CS:1110 Introduction to Computer Science 3 s.h.
CS:1210 Computer Science I: Fundamentals 4 s.h.

B.A. or B.S. with Teacher Licensure
Psychology majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education’s Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Education Services for details.
Students must satisfy all degree requirements and complete Teacher Education Program licensure before degree conferral.

Joint B.A./M.P.H. with Community and Behavioral Health Subprogram
Bachelor of Arts students majoring in psychology who are interested in earning a Master of Public Health degree with community and behavioral health subprogram may apply to the joint B.A./M.P.H. program offered by the College of Liberal Arts and Sciences and the College of Public Health. The program permits students to count 12 s.h. of credit toward the requirements for both degrees, enabling them to begin the study of public health before they complete the bachelor’s degree. For information about the public health program, see “Community and Behavioral Health Subprogram” in the Master of Public Health Program section of the Catalog.

Four-Year Graduation Plan
The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

Bachelor of Arts
In addition to courses in psychology, the B.A. requires three courses in a second concentration area.
Before the third semester begins: PSY:1001 Elementary Psychology
Before the fifth semester begins: PSY:2701 Biological Psychology, statistics, and one or more lower-level electives
Before the seventh semester begins: four courses in the major (including PSY:2810 Research Methods in Psychology), one course in the second concentration area, and at least 90 s.h. earned toward the degree
Before the eighth semester begins: two additional courses in the major and an additional course in the second concentration area
During the eighth semester: enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

Bachelor of Science
Note: The psychology major for the B.S. is open only to students who have earned 30 s.h. and have a g.p.a. of at least 2.67. Students must complete a natural science sequence, either as part of the General Education Program or in addition to it. Students also must complete a semester of calculus and an advanced math, statistics, or computer science course, which may require some preliminary work.
Before the third semester begins: PSY:1001 Elementary Psychology and PSY:2701 Biological Psychology
Before the fifth semester begins: calculus, statistics, and three additional courses in the major (including PSY:2810 Research Methods in Psychology)
Before the seventh semester begins: two more courses in the major, one course for the major's natural
science requirement, and at least 90 s.h. earned toward the degree

**Before the eighth semester begins:** the advanced mathematics/statistics/computer science course and two more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

**Honors in the Major**

Students majoring in psychology have the opportunity to graduate with honors in the major. Departmental honors students must complete PSY:4090 Psychology Seminar and write an honors thesis, which is based on an approved original honors research project that the student has conducted under the guidance of a faculty member. Interested students should contact the department’s honors advisor.

Departmental honors students must be members of the University’s honors program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33; visit Honors at Iowa to learn about the University of Iowa Honors Program.

**Minor**

The minor in psychology requires a minimum of 15 s.h., including 12 s.h. in psychological and brain sciences courses taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and all UI courses for the minor. Course work in the minor may not be taken pass/nonpass or satisfactory/fail. Before registering for a psychological and brain science course, students must complete the course’s prerequisites.

A minor in psychology complements majors in a variety of disciplines. Department advisors can help students identify courses for the minor that are especially appropriate for their major.

**National Honor Society**

The department sponsors a chapter of Psi Chi, the national honor society in psychology and affiliate of the American Psychological Association. Students who have a g.p.a. of at least 3.00 overall and 3.10 in psychology course work and who have completed 9 s.h. of psychology courses may request a membership application form. Consult the department’s academic coordinator for more information.

**Graduate Programs of Study**

- Master of Arts in psychology
- Doctor of Philosophy in psychology

Graduate study in psychology is designed for students seeking the Ph.D.; students enrolled in the doctoral program may elect to receive a Master of Arts when they have completed the M.A. requirements.

**Master of Arts**

The Master of Arts program in psychology requires 30 s.h. of graduate credit with thesis, and 37 s.h. of graduate credit without thesis. The department ordinarily offers the M.A. only to students enrolled in the Ph.D. program. Thesis students must earn 24 of the required 30 s.h. at the University of Iowa. Course work for the thesis program must include a statistics course, courses outside the primary specialization area, and at least an additional 8 s.h. earned in Department of Psychological and Brain Sciences courses and seminars. Thesis students also must complete an acceptable scholarly thesis and perform successfully in an oral defense of their thesis.

Nonthesis students must earn 30 of the required 37 s.h. at the University of Iowa. Course work for the nonthesis program must include a statistics course, courses outside the primary specialization area, and at least an additional 15 s.h. earned in Department of Psychological and Brain Sciences courses and seminars. Nonthesis students also must perform successfully on an examination covering their area of specialization.

**Doctor of Philosophy**

The Doctor of Philosophy program in psychology requires a minimum of 72 s.h. of graduate credit. Students entering without previous graduate work usually require at least four years to complete the program; those entering with previous graduate training usually require three to five additional years in the department, depending on the nature of the earlier preparation.

The Ph.D. program places strong emphasis on preparation for research, teaching, and scholarly endeavor, 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 six broad areas: behavioral and cognitive neuroscience, clinical psychology, cognition and perception, developmental science, health psychology, and social psychology (see “Graduate Training Areas” below). Each entering student is expected to identify one of these as his or her primary area and to follow a program that develops thorough understanding of the substantive material and methods of investigation central to that subdiscipline. While pursuing specialty training, all students must meet course requirements in statistics and research methods and 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. Individually tailored programs are possible.

The 72 s.h. required for the Ph.D. includes at least 33 s.h. in Department of Psychological and Brain Sciences courses. All students must satisfy, through one of several options, requirements in statistics and research methods. They also must take course work outside the primary training area to develop a background in the discipline of psychology as a whole.

During each of the first two semesters, graduate students ordinarily take 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 course work 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 Ph.D. study and preparing the dissertation. In the Ph.D. 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 classical and operant conditioning, motivation and emotion, developmental psychobiology, neurobiology of learning, comparative psychology, cognitive neuroscience, 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, imaging, and assays of biochemical activity.

Faculty members in the behavioral and cognitive neuroscience area interact extensively with colleagues from other divisions in the psychology department and from several basic science and clinical departments in the Carver College of Medicine, including anatomy, anesthesia, pharmacology, internal medicine, pediatrics, and neurology. These collaborative activities provide excellent research and training opportunities for students interested in emerging interdisciplinary fields such as behavioral medicine.

**Clinical Psychology**

The clinical 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 Iowa City Veterans Affairs Medical Center. Many of the program’s faculty members conduct externally funded research programs that use cutting-edge behavioral science to develop 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 the first-hand clinical experience and opportunities to develop clinical competence that are integral to clinical research. It closely integrates practicum experience in the Seashore Clinic with course work 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 Iowa City Veterans Affairs Medical Center, and other venues. After five to six years of on-campus work, including completion of all course work and most of the dissertation, students serve a one-year internship at an approved site.

**Cognition and Perception**

The cognition and perception training area is guided by the philosophy that understanding a specific cognitive process requires an understanding of how it interacts with other cognitive processes. The area pursues empirical rigor and theoretical development, so its research is theory driven and data tested.

Research programs of the area's laboratories overlap with each other, and most content areas are studied by multiple laboratories and with multiple methodologies. Areas of strength include categorization, computational modeling, cognitive control, language and language learning, learning and memory, visual cognition, attention, and working memory.

Students in perception and 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 a project with work in areas such as neuroscience, neuropsychology, psychiatry, developmental psychology, and human factors engineering.

**Developmental Science**

The developmental science program focuses on understanding the processes that underlie change as each individual follows a unique developmental pathway. Students examine influences on development ranging from the level neurons to neighborhoods, and they work to understand the step-by-step accumulation of effects across these levels and over time. Students are taught a broad range of developmental theory and acquire expertise in multiple research paradigms, such as observational research, experimentation, computational methods, and neuroimaging. They also have the opportunity to study and collaborate with faculty members whose research cuts across domains such as perception, cognition, action, social processes, and basic biological mechanisms. Faculty members collaborate with their colleagues across the University, including those...
in the Carver College of Medicine. These collaborations provide students with a unique breadth of training. Students take courses in many areas of developmental science as well as in other areas of psychological and brain sciences. They also have research opportunities in early communication and social development, cognitive development in infancy and childhood, neuroimaging in toddlers and adults, and developmental psychobiology. The developmental research group meets regularly in conjunction with other members of the University of Iowa’s DELTA Center, providing students and faculty members the opportunity to present and discuss their own research as well as to gain exposure to other developmental work being conducted in the department and at the University.

Health Psychology
The health psychology program is concerned with application of psychological theory, methods, and treatment to understanding of physical health and illness as well as understanding biobehavioral factors that contribute to disease onset and progression. The program’s perspective is based on the biopsychosocial model, which posits that biological, psychological, and social processes are integrally and interactively involved in physical health and illness.

Graduate training in health psychology emphasizes the integration of knowledge about biological, psychological, and social factors. Students are involved in research whose content and methods reflect the biopsychosocial perspective. Training in health psychology is facilitated by the faculty's longstanding collaborations with medical practitioners and researchers at the University’s Carver College of Medicine and University of Iowa Hospitals and Clinics. Availability of medical populations and state-of-the-art medical technologies afford a unique opportunity for doctoral students in health psychology.

Research areas of the health psychology program include stress and illness, psychoneuroimmunology, patient adherence, animal models of hypertension and heart failure, postpartum depression, women's health issues, and psycho-oncology.

Students who are interested in clinical training with a focus on health psychology should apply directly to the clinical program and indicate an interest in clinical health psychology.

Social Psychology
The social psychology program offers a variety of perspectives on interpersonal and intrapersonal processes. Examples of research foci of faculty and students are social-cognitive processes, attitudes, stereotyping and prejudice, social comparison, judgment and decision making, compassion and altruism, moral judgment, emotion, social motivation, parent-child relationships, temperament and individual differences in childhood, and social and emotional development.

Graduate training in the social psychology program is designed primarily to prepare students for careers in psychology research and teaching. In addition to their experiences and coursework in the program and in the Department of Psychological and Brain Sciences, students can benefit from opportunities in related academic units at the University, such as the Departments of Sociology, Communication Studies, and Statistics and Actuarial Science and the Tippie College of Business. Such experience can broaden a student's training, research opportunities, and employment prospects.

Admission
Since the graduate program in psychology is designed primarily for students seeking the Ph.D., all applicants are considered on that basis. Occasionally, a qualified applicant who is in good standing in another UI graduate program and is interested in advanced work in psychology only through the M.A. level may be admitted to pursue a joint graduate program. Students interested in such a program should contact the department chair before filing an application.

The application deadline is December 1. For all materials to be on file by that date, applicants should take the Graduate Record Examination (GRE) General Test in October, and no later than November. The subject test in psychology is not required. Applications may be submitted any time but are considered only once each year—between December 1 and February 1—for admission the following fall. Admission decisions are based on a composite consideration of prior academic and research performance; letters of reference; scores on the verbal, quantitative, and analytic writing sections of the GRE General Test; 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 are expected to remedy deficiencies through special course work 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 of the Graduate College.

Financial Support
All students admitted to the Ph.D. 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.

Faculty
Faculty members of the Department of Psychological and Brain Sciences are nationally and internationally renowned leaders in a variety of subdisciplines. Their research is funded by numerous federal and private research grants, their findings are documented in many publications, and their accomplishments have won many awards.

Facilities
The department's facilities for graduate training and research are among the finest in the country. The Kenneth W. Spence Laboratories of Psychology, adjoining space in Seashore Hall, and the newly renovated Stuit
Hall provide a variety of laboratories for human and animal studies. Facilities include animal housing areas; a histology laboratory; observation suites with remote audiovisual control and recording equipment; soundproof chambers; electrophysiological recording rooms; conditioning laboratories; the Seashore Clinic; and well-equipped electronic, mechanical, and woodworking shops. Computers are widely available. Office space for graduate students and faculty members is provided in Seashore Hall.

The research and teaching activities of the department benefit greatly from the facilities and staff of other University and local agencies, including University of Iowa Hospitals and Clinics, the Iowa City Veterans Affairs Medical Center, the University Counseling Service, the Center for Disabilities and Development, the Wendell Johnson Speech and Hearing Clinic, the Center for Health Policy and Research, and the School of Social Work.

Courses

Lower-Level Undergraduate

The following courses are open to first-year students who have satisfactorily completed an introductory psychology course (PSY:1001 Elementary Psychology or equivalent).

PSY:2301 Introduction to Clinical Psychology
PSY:2401 Introduction to Developmental Science
PSY:2501 Introduction to Social Psychology
PSY:2601 Introduction to Cognitive Psychology
PSY:2701 Biological Psychology
PSY:2910 Industrial/Organizational Psychology

PSY:1000 First-Year Seminar 1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

PSY:1001 Elementary Psychology 3 s.h.
Psychology as a behavioral science. GE: Social Sciences.

PSY:2130 Advanced Psychology for Pre-Medical Track 3 s.h.
Psychology as a behavioral science; elementary psychology in more depth, advanced topics. Prerequisites: PSY:1001. Requirements: non-psychology major.

PSY:2301 Introduction to Clinical Psychology 3 s.h.
Introduction to abnormal psychology; scientist-practitioner model, training, ethics, research methods in clinical psychology; current approaches to intellectual, personality, behavioral assessment; theories, research on treatment of psychological disorders. Prerequisites: PSY:1001. GE: Social Sciences.

PSY:2401 Introduction to Developmental Science 3 s.h.

Upper-Level Undergraduate and Graduate

Current research in developmental science; prenatal development, brain development, motor and physical development, perceptual development, language development, cognitive development, aspects of socio-emotional development; emphasis on modern theoretical approaches. Prerequisites: PSY:1001. GE: Social Sciences.

PSY:2501 Introduction to Social Psychology 3 s.h.
Research and theories on people's thoughts, feelings, and behaviors in social situations; attitudes, attributions, person perception, aggression, stereotypes and prejudice, attraction, relationships, social influence, group processes, altruism. Prerequisites: PSY:1001.

PSY:2601 Introduction to Cognitive Psychology 3 s.h.
Individual human cognition; perception, attention, memory, language, learning, problem solving, decision making, thought considered from viewpoint of information processing. Prerequisites: PSY:1001.

PSY:2701 Biological Psychology 4 s.h.
Biological mechanisms of behavior; comparative study of behavior, behavioral organization, animal intelligence, social behavior, communication; behavioral neuroscience, how brain systems control sensation, movement, homeostasis, emotion, learning. Prerequisites: PSY:1001.

PSY:2810 Research Methods in Psychology 4 s.h.
Logic of experimental and nonexperimental methods, application of methods to analysis of behavioral phenomena; skills for critical evaluation of professional and public literature dealing with scientific study of behavior: philosophy of scientific psychology, principles of research design and control, psychological testing, applications in several research areas. Prerequisites: PSY:1001 and (PSQF:1020 or PSQF:4143 or SOC:2160 or STAT:1020 or STAT:1030 or STAT:3510 or STAT:4143).

PSY:2910 Industrial/Organizational Psychology 3 s.h.
Applications of psychology to problems in world of work; emphasis on personnel selection, training, attitudes, motivation, measurement of job performance. Prerequisites: PSY:1001.

PSY:2930 Abnormal Psychology: Health Professions 3 s.h.
Introduction to psychological disorders; description of psychopathology; general issues in etiology and treatment; for non-psychology students in allied health professions. Prerequisites: PSY:1001. Requirements: non-psychology major.

Upper-Level Undergraduate and Graduate

Before enrolling in any upper-level undergraduate courses, students must complete all specified lower-level prerequisites or obtain consent of instructor.
PSY:3010 Health Psychology 3 s.h.  Psychological contributions to understanding etiology, prevention, treatment of physical illness; basic and clinical research that addresses reciprocal effects of behavior and physical health. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2301 or PSY:2501 or PSY:2701, and grade of C- or higher in PSY:2810.

PSY:3015 Psychology of Interpersonal Relations 3 s.h.  Theories, empirical findings, speculation from social psychology and related disciplines regarding how people form, maintain, and alter close, interpersonal relationships. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2301 or PSY:2501 and grade of C- or higher in PSY:2810.

PSY:3020 Mind and Behavior 3 s.h.  Theories of what it is to act and know, of what intelligence might be in animals, humans, machines; perspectives from philosophy, psychology. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2601 or PSY:2701, grade of C- or higher in PSY:2810, and junior or senior standing.

PSY:3030 Social and Personality Development 3 s.h.  Emotional, social, and personality development from infancy to adolescence; major theories and empirical research; child temperament, parent-child relationship, and social context as contributors to individual differences. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2401 or PSY:2501 and grade of C- or higher in PSY:2810.

PSY:3040 Psychology of Learning 3 s.h.  Psychological science of acquired behavior; interests in experimental study of Pavlovian conditioning, operant conditioning, cognition in humans and nonhuman animals, relevance to behavioral adaptation. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2601 or PSY:2701 and grade of C- or higher in PSY:2810.

PSY:3060 Visual Perception and Cognition 3 s.h.  Psychological and neurophysiological examination of vision. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2601 or PSY:2701 and grade of C- or higher in PSY:2810.

PSY:3065 The Aging Mind and Brain 3 s.h.  Current theories and research on biological, cognitive, and emotional changes that occur during aging; methodologies for studying cognitive and brain aging. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2601 or PSY:2701 and grade of C- or higher in PSY:2810.

PSY:3071 Cognition and the Brain 3 s.h.  Analysis of brain systems and neuroanatomy that underlie cognitive tasks such as vision, hearing, emotion, attention, language, decision making, learning, and memory. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2601 or PSY:2701, and grade of C- or higher in PSY:2810.

PSY:3085 Language Development 3 s.h.  Introduction to first language acquisition, with focus on infancy through five years; sound discrimination abilities, word learning, babbling and speech production, acquisition of grammar; perspectives from psychology, audiology, linguistics, speech pathology. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2401 or PSY:2601 and grade of C- or higher in PSY:2810. Same as SLA:3401.

PSY:3090 Psychology of Workplace Behaviors 3 s.h.  Introduction to theory and research of workplace and work-related behaviors; focus on industrial and organizational psychology. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2501 or PSY:2601, and grade of C- or higher in PSY:2810.

PSY:3095 Psychology of Relationship Violence 3 s.h.  Introduction to psychological theory and research on violence in relationships; topics will include intimate partner violence, sexual assault and rape, sexual harassment, and stalking; includes a service learning component. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2301 or PSY:2501 and grade of C- or higher in PSY:2810, or graduate standing.

PSY:3210 Animal Cognition 3 s.h.  Mental functions of animals, comparison to humans; intelligence, memory, communication, language, social learning, consciousness, human-animal interaction. Requirements: grade of C- or higher in PSY:2701 and grade of C- or higher in PSY:2810.

PSY:3220 Behavioral Neuroscience 3 s.h.  Basic concepts and techniques in neurosciences, their application to analysis of sensory processes, arousal mechanisms, motivation, learning. Requirements: grade of C- or higher in PSY:2701 and grade of C- or higher in PSY:2810.

PSY:3230 Psychopharmacology 3 s.h.  How drugs act to influence behavior; general principles of drug action on the nervous system; licit and illicit drugs, use/abuse, historical perspective on drug use. Requirements: grade of C- or higher in PSY:2701 and grade of C- or higher in PSY:2810.

PSY:3240 Motivation, Addiction, and the Brain 3 s.h.  Analysis of motivated behaviors (e.g., behaviors to obtain specific goals, such as food) and the brain processes that guide such behavior; exploration of brain processes underlying addiction. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2701 and grade of C- or higher in PSY:2810.

PSY:3250 Neuroscience of Learning and Memory 3 s.h.  Major topics in the neuroscience of learning and memory; focus on anatomical, cellular, molecular bases of various learning and memory processes. Requirements: grade of C- or higher in PSY:2701 and grade of C- or higher in PSY:2810.
PSY:2401. of C- or higher in PSY:2810 and grade of C- or higher in interaction. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2701 and grade of C- or higher in PSY:2810.

PSY:3280 Introduction to Health Biopsychology
Physiological basis of behavior and cognition; interaction between brain and body in normal and pathological states. Requirements: grade of C- or higher in PSY:2701 and grade of C- or higher in PSY:2810.

PSY:3320 Abnormal Psychology
Etiology, phenomenology, and treatment of child and adult DSM-IV psychological disorders (e.g., mood disorders, psychotic disorders, anxiety disorders, personality disorders). Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2301 and grade of C- or higher in PSY:2810.

PSY:3330 Childhood Psychopathology
Major forms of childhood psychopathology; current theoretical approaches and methodological issues in diagnosis, conceptualization, treatment of developmental psychopathology. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2301 and grade of C- or higher in PSY:2810.

PSY:3340 Behavior Modification
Basic approaches to modification of clinically distressing behavior; learning theory principles underlying techniques, translation into procedures, experimental evaluation of effectiveness. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2301 and grade of C- or higher in PSY:2810.

PSY:3350 Psychotherapies
Current theories and research on frequently used psychotherapeutic approaches; focus on methodology in psychotherapy research, specific types of therapy, and empirically supported therapies. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2301 and grade of C- or higher in PSY:2810.

PSY:3420 Cognitive Development of Children
Developmental research, theory concerning children's concepts, thinking, problem solving, memory, communication. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2401 and grade of C- or higher in PSY:2810.

PSY:3451 Infant Development
Physical, motor, perceptual, cognitive, and social development during first two years of life; focus on early mechanisms of change; locomotion, perceptual abilities, precursors of cognition, early language acquisition, social interaction. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2810 and grade of C- or higher in PSY:2401.

PSY:3530 Personality
Classic theoretical models and contemporary empirical research in personality, including influence of heredity and environment, consistency and stability of behavior. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2301 or PSY:2501 and grade of C- or higher in PSY:2810.

PSY:3540 Attitude Change
Current theoretical approaches; laboratory and field methods of research; basic processes of change considered within broader framework of psychology. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2501 and grade of C- or higher in PSY:2810.

PSY:3560 Psychology of Gender
Origins of gender roles, gender socialization in childhood, gender differences across lifespan; research on gender differences in cognition, emotions, behavior, physical and mental disorders, communication. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2501 and grade of C- or higher in PSY:2810.

PSY:3570 Social Cognition
Research and theory on cognitive structures and processes that underlie judgment, decision, belief, and behavior in social situations; attribution, heuristics, schemas, person perception, stereotypes, attitudes. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2501 and grade of C- or higher in PSY:2810.

PSY:3580 Judgment and Decision Making
Processes and biases that shape judgments and decisions of various types (e.g., about other people, the future, competitions, products, medical treatments, health risks, crime suspects). Prerequisites: PSY:2701. Requirements: Grade of C- or higher in PSY:2501 and grade of C- or higher in PSY:2810.

PSY:3590 Stigma and Prejudice
Research and theory on prejudice, stigmatization, stereotyping and discrimination, focusing on nature, origins, and impact of prejudice and stigma. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2501 and grade of C- or higher in PSY:2810.

PSY:3620 Human Memory
Contemporary psychological theory and research on short-term and long-term memory, acquisition processes, related topics in cognition. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2601 and grade of C- or higher in PSY:2810.

PSY:3660 Human Information Processing
Early through contemporary theory and research on human information processing; focus on human-machine interaction and ergonomics. Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2501 or PSY:2601, and grade of C- or higher in PSY:2810; or graduate standing.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>PSY:3670</td>
<td>Language Processes</td>
<td>3 s.h.</td>
<td>Psychological processes involved in using languages, including speech perception and production, the meaning of words, understanding and producing sentences, and basics of discourse and pragmatics; developmental and neural bases of language processes.</td>
<td>Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2601, grade of C- or higher in PSY:2810, and psychology major; or nonmajor and CSD:1015 or LING:3001. Same as LING:3670.</td>
</tr>
<tr>
<td>PSY:3994</td>
<td>Research Practicum in Psychology</td>
<td>arr.</td>
<td>Small-group participation in faculty research projects; literature review, study planning, data collection, analysis, interpretation, write-up.</td>
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</tr>
<tr>
<td>PSY:3995</td>
<td>Advanced Research Practicum in Psychology</td>
<td>1-3 s.h.</td>
<td>Individual participation in faculty research projects; significant reading and writing. Requirements: two semesters of PSY:3994 or HONR:3994.</td>
<td></td>
</tr>
<tr>
<td>PSY:3996</td>
<td>External Practicum in Psychology</td>
<td>1-3 s.h.</td>
<td>Student participation in career-related professional activities in community and University of Iowa agencies.</td>
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</tr>
<tr>
<td>PSY:3997</td>
<td>Teaching/Advising Practicum in Psychology</td>
<td>1-3 s.h.</td>
<td>Participation in faculty teaching as undergraduate teaching assistant or the Psychology Peer Advisor Program.</td>
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<tr>
<td>PSY:3998</td>
<td>Individual Readings and Projects</td>
<td>1-3 s.h.</td>
<td>Requirements: psychology major and undergraduate standing.</td>
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</tr>
<tr>
<td>PSY:4020</td>
<td>Laboratory in Psychology</td>
<td>4 s.h.</td>
<td>Laboratory study of an aspect of behavior; topics in a particular area (e.g., learning and memory, perception, social behavior, operant behavior, physiological processes).</td>
<td>Prerequisites: PSY:2701. Requirements: grade of C- or higher in PSY:2810.</td>
</tr>
<tr>
<td>PSY:4090</td>
<td>Psychology Seminar</td>
<td>3 s.h.</td>
<td>Readings from original sources, presentations, papers, student participation. Requirements: PSY:2701. Requirements: grade of C- or higher in PSY:2810, psychology B.S. enrollment, and senior standing.</td>
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<tr>
<td>PSY:4990</td>
<td>Honors Thesis Research</td>
<td>1-3 s.h.</td>
<td>Supervised original project; leads to written thesis, oral defense. Requirements: honors standing.</td>
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**Graduate**

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<tr>
<th>Course Code</th>
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<th>Description</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>PSY:5050</td>
<td>Quantitative Methods in Psychology</td>
<td>4 s.h.</td>
<td>Overview of statistical methods based on the general linear model, including ANOVA, ANCOVA, and multiple regression; how to conduct these analyses using SPSS. Requirements: first-year graduate standing in psychology.</td>
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</tr>
<tr>
<td>PSY:5055</td>
<td>Mixed-Effects Modeling in Psychology</td>
<td>4 s.h.</td>
<td>Introduction to mixed-effects analysis of hierarchically structured and cross-classified psychological data using R.</td>
<td>Prerequisites: PSY:5050.</td>
</tr>
<tr>
<td>PSY:5203</td>
<td>Fundamental Neurobiology</td>
<td>4 s.h.</td>
<td>Neurobiology from molecular/cellular to systems levels, including cell biology of neuron; membrane electrophysiology, synaptic transmission and plasticity, functional neuroanatomy, sensory systems from periphery to CNS, peripheral and central motor systems, autonomic systems emotion, memory, sleep, language, attention and cognition, development of nervous system; discussion of classic and recent journal articles.</td>
<td>Requirements: PSY:5050.</td>
</tr>
<tr>
<td>PSY:5320</td>
<td>Descriptive Psychopathology</td>
<td>3 s.h.</td>
<td>Psychiatric syndromes, including description, etiology, experimental and clinical research; development, function of classification systems.</td>
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<tr>
<td>PSY:5330</td>
<td>Principles of Psychological Assessment</td>
<td>4 s.h.</td>
<td>Assessment theory and basic psychometric principles in test construction, evaluation, application; ethical, social, psychological, psychometric issues and controversies in assessment.</td>
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<tr>
<td>PSY:5365</td>
<td>Seminar: Neuropsychology and Neuroscience</td>
<td>arr.</td>
<td>Clinical neuropsychology and cognitive neuroscience: cutting-edge research from scientific journals, case presentations in clinical neuropsychology, and current research. Same as NEUR:5365, NSCI:5365.</td>
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</tr>
<tr>
<td>PSY:5410</td>
<td>Proseminar in Developmental Science</td>
<td>3 s.h.</td>
<td>Introduction to developmental process and developmental science; topics organized around mechanisms of development, with cross-disciplinary focus.</td>
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<tr>
<td>PSY:5610</td>
<td>Proseminar in Cognition and Perception</td>
<td>3 s.h.</td>
<td>Broad overview of study of cognition, including cognitive psychology, computer science and artificial intelligence, linguistics, neuroscience, philosophy of mind.</td>
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<tr>
<td>PSY:5710</td>
<td>Introduction to Health and Behavioral Science</td>
<td>3 s.h.</td>
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</table>
Evolution of health psychology; survey of major physiological systems in which pathology is affected by behavioral processes; review of theoretical approaches, experimental paradigms from behavioral science as they may apply to assessment of health problems; prevention, intervention, psychological adaptation to physical disease.

**PSY:6050 Clinical Behavioral Medicine** 3 s.h.
Biopsychosocial framework applied to study, treatment of chronic and acute physical conditions; clinical concepts, procedures.

**PSY:6101 Cognitive Science of Language Proseminar I** 3 s.h.
Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as CSD:6101, LING:6101.

**PSY:6102 Cognitive Science of Language Proseminar II** 3 s.h.
Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as CSD:6102, LING:6102.

**PSY:6210 Behavioral Pharmacology** 3 s.h.
Behavioral analysis of drug action; emphasis on physiological and biological mechanisms underlying behavioral processes in experimental animals, humans.

**PSY:6230 Foundations of Learning, Memory, and Cognition** 3 s.h.
Determinants of adaptive behavior in humans and animals; emphasis on behavioral analysis of learning, memory, and cognition; relevance of laboratory research to real life activities.

**PSY:6265 Neuroscience Seminar** 0-1 s.h.
Research presentations. Offered fall and spring semesters. Same as ACB:6265, MPB:6265, NSCI:6265, BIOL:6265.

**PSY:6270 Fundamentals of Health Biopsychology** 3 s.h.
Biological basis of behavior and cognition in relation to disordered regulation of body-brain systems in pathological states.

**PSY:6280 Structural and Functional MRI Methods and Application** 3 s.h.
Introduction to basic principles of magnetic resonance imaging and its application to psychology; imaging of brain structure; focus on functional MRI. Requirements: graduate-level introductory statistics.

**PSY:6340 Psychological Therapies** 3 s.h.
Historical development and current status of empirically based therapies for psychological disorders, including anxiety, depression, schizophrenia, childhood disorders; emphasis on critical evaluation of therapy techniques.

**PSY:6350 Ethics and Professional Concerns** arr.
Major ethical and legal issues relevant to clinical psychologists’ varied roles; understanding of legal and ethical issues encountered by psychologists in varied settings, development of personal working model for resolving ethical and professional concerns.

**PSY:6370 Principles of Neuropsychology** 3 s.h.
Principles of human neuropsychology, including foundations (history, methods, approaches), major functional systems (vision, memory, language, spatial processing), executive functions (emotional processing and personality), and applications (experimental, clinical). Recommendations: prior course work in psychological assessment, psychopathology, and neuroanatomy.

**PSY:6440 Developmental Cognitive Neuroscience** 3 s.h.
Overview of current developmental cognitive neuroscience theory, research, and methods (PET, fMRI, optical imaging, EEG, ERPs); neural development, computational neuroscience, and methods.

**PSY:6450 Processes of Language Acquisition** 3 s.h.
Theoretical and computational approaches to the study of first language acquisition from infancy to five years, including prelinguistic sound discrimination, babbling, semantic development, categorization abilities, syntactic and grammatical development.

**PSY:6460 Translating Developmental Science to Applied Problems** 3 s.h.
Relationship between basic and applied research in development; individual differences work and how applied work informs theory.

**PSY:6480 Computational Approaches to Development** 3 s.h.
Use of computational models to understand development; model development, specific approaches, model evaluation, and hands-on model work.

**PSY:6490 Dynamic Systems and Development** 3 s.h.
Dynamical systems theory, its application to basic problems in developmental psychology; development of motor control, cognition, language; comparisons with other theoretical approaches in developmental psychology.

**PSY:6510 Advanced Social-Personality Psychology** 3 s.h.
Classic and contemporary theory, research, methodological issues in social-personality psychology.

**PSY:6520 Attitudes and Persuasion** 3 s.h.
Classic and current theories and findings on persuasion, the formation and measurement of attitudes.

**PSY:6530 Advanced Social Cognition** 3 s.h.
Research and theory on cognitive processes that underlie judgment, decision, belief, and behavior in social situations; attribution, heuristics, counterfactual thinking, schemas, person perception, stereotypes, attitudes.
PSY:6550 Advanced Social and Personality Development
3 s.h.
Theory and research on social and personality development; overview of development and individual differences in emotions, temperament, attachment, self, social cognition, conscience; influence of biological factors, social relationships, and broader ecology on adaptive and maladaptive developmental pathways.

PSY:6560 Stereotyping, Prejudice, and Discrimination
3 s.h.
Theory and research on origins and mechanisms of stereotyping, prejudice, and discrimination; implications for perceivers, targets, and interpersonal interactions.

PSY:6620 Computational Modeling of Cognition
3 s.h.
Introduction to computational modeling as a methodology for studying cognition; computational models’ role and use as a framework for thinking about cognition; emphasis on hands-on simulation exercises.

PSY:6640 Visual Perception
3 s.h.
Theoretical and empirical analyses of low- and high-level visual functions, including edge detection, surface representation, object identification.

PSY:6650 Attention
3 s.h.
Theory and research on attention, from viewpoints of cognitive psychology and cognitive neuroscience, including historical perspectives, recent approaches.

PSY:6740 Drug Addiction
3 s.h.
Analysis of factors involved in drug addiction; social, clinical, and biological processes.

PSY:7020 Seminar: Cognitive Neuroscience
0-2 s.h.
Neurological and behavioral investigations of attention, perception, learning, memory, decision making, planning; contemporary models, theories.

PSY:7030 Seminar: Health Psychology
0-3 s.h.
Theoretical and methodological issues; focus on specific topics (i.e., chronic disease, psychoneuroimmunology).

PSY:7070 Seminar: Behavioral Biomedical Interface
1 s.h.
Ongoing seminar; discussion of research at behavioral-biomedical interface. Requirements: acceptance to Behavioral Biomedical Interface Training Program.

PSY:7090 Principles of Scholarly Integrity: Psychology
1 s.h.
Training in responsible conduct of research; focus on psychological research and scholarly activities; student/mentor responsibilities; authorship; plagiarism/falsification/fabrication of data; intellectual property; conflict of interest; fiscal, institutional, societal; treatment of human and animal subjects. Requirements: enrollment in graduate psychology program.

PSY:7095 Principles of Scholarly Integrity: Psychology
0 s.h.

PSY:7110 Research Projects
arr.

PSY:7120 M.A. Thesis Research
arr.

PSY:7130 Ph.D. Dissertation Research
arr.

PSY:7150 Current Topics in Psychology
3 s.h.

PSY:7160 Problems in Psychology
arr.
Individual study.

PSY:7170 Teaching Practicum
arr.
Supervised practice in teaching.

PSY:7210 Seminar: Advanced Topics in Behavioral and Cognitive Neuroscience
3 s.h.
Prerequisites: PSY:5210.

PSY:7310 Seminar: Orientation to Clinical Research
0-1 s.h.
Issues in clinical research, including use of databases, advisor/advisee relationships, preparation of IRB proposals, paper presentation and publication, common early career problems, funding resources.

PSY:7350 Introductory Practicum
arr.
Orientation to Department of Psychology clinic, including instruction in interviewing, observation of clinic procedures, attendance at clinic rounds under supervision of clinical psychology faculty members.

PSY:7355 Assessment Practicum
arr.
Supervised practice in psychological assessment techniques.

PSY:7360 Therapy Practicum
arr.
Supervised practice and clinical experience in application and evaluation of psychological therapies.

PSY:7365 External Practicum
arr.
Supervised practice and clinical experience in field setting; psychological assessment techniques and/or application, evaluation of psychological therapies.

PSY:7370 Supervision and Consultation Practicum
arr.
Supervision and training of less advanced students; consultation to other programs and agencies.

PSY:7430 Seminar: Cognitive Development
0-3 s.h.
Theoretical, methodological issues focused on cognitive and perceptual development.

PSY:7510 Seminar: Social Psychology
1 s.h.
Professional issues, current topics relevant to social psychologists.

PSY:7610 Seminar: Cognitive Psychology
2 s.h.