

DOCTOR OF PHILOSOPHY WITH A MAJOR IN PSYCHOLOGY

Doctor of Philosophy with a major in Psychology

All PhD programs must incorporate a standard set of Requirements for the Doctoral Degree.

OVERVIEW

The Doctoral program provides the student with specialized coursework and opportunities for research in Cognition and Brain Science, Cognitive Aging Psychology, Engineering Psychology Industrial/Organizational Psychology, or Quantitative Psychology. Each curriculum includes individualized study and research with a strong foundation in general experimental psychology as a basis for this specialization. The goal of the School of Psychology, reflected in the structure of the program described within this handbook, is to provide an academic environment in which the Ph.D. degree will be completed in a reasonable amount of time.

REQUIRED COURSEWORK FOR THE DOCTORAL DEGREE PROGRAMS

Doctor of Philosophy with a Major in Psychology (Specialization in Cognition and Brain Science)

The Cognitive and Brain Science specialty area for the Psychology Ph.D. program trains students to understand diverse aspects of cognition. Students learn about theories of cognitive phenomena and the neurobiological bases of cognition and behavior. Students study the major methods used to measure various components of cognition. These components include attention, sensation and perception, working memory, episodic memory, cognitive control, language, metacognition, spatial cognition, and problem-solving. Faculty research interests include these areas of cognition as they exist in humans and aspects of comparative psychology (animal behavior and cognition). Some faculty members' research interests include human cognitive neuroscience, measuring brain activity during cognition with electrophysiological or imaging techniques in persons with or without neurological dysfunction. The program is closely connected to faculty with interests in the Cognitive Aging program, including understanding the effects of aging on cognitive mechanisms and how aging influences neural functioning and cognition.

- PSYC 6018 Principles of Research Design (3 Credit Hrs.)
- PSYC 6000 Responsible Conduct of Research (1 Credit Hrs.)
- PSYC 6019 Statistical Analysis of Psychological Data I (5 Credit Hrs.)
- PSYC 6020 Statistical Analysis of Psychological Data II (5 Credit Hrs.)
- PSYC 6011 Cognitive Psychology (3 Credit Hrs.) or Psyc 6090 Cognitive Neuroscience (3 Credit Hrs.)
- Two Elective Graduate-Level (6000 or higher) Courses (6 Credit Hrs.)

Doctor of Philosophy with a Major in Psychology (Specialization in Cognitive Aging)

The Cognitive Aging specialty area in the Psychology PhD program emphasizes training students about cognition in adulthood. Students gain an understanding of the biological, psychological, and social aspects

of aging as they relate to cognitive development over the adult life span. Areas of interest of the faculty include age differences and age changes in basic cognitive mechanisms (such as working memory, episodic memory, attention, speed of processing, and language), higher-order cognition (including adult intellectual development), and practical and contextual aspects of cognition (such as knowledge acquisition, skill development, everyday problem solving, metacognition, emotion regulation, and social cognition). The program is closely connected to faculty with interests in human factors and aging (in the Engineering Psychology program), cognitive neuroscience of aging (in the Cognitive and Brain Sciences program), and aging issues in work and careers (in the Industrial/Organizational Psychology program).

- PSYC 6018 Principles of Research Design (3 Credit Hrs.)
- PSYC 6000 Responsible conduct of Research (1 Credit Hrs.)
- PSYC 6019 Statistical Analysis of Psychological Data I (5 Credit Hrs.)
- PSYC 6020 Statistical Analysis of Psychological Data II (5 Credit Hrs.)
- PSYC 6011 Cognitive Psychology (3 Credit Hrs.)
- PSYC 6060 Psychology of Aging (3 Credit Hrs.)
- PSYC 6041 Proseminar in Cognitive Aging (3 Credit Hrs.)
- PSYC 7020 Survey of Cognitive Aging (3 Credit Hrs.)
- PSYC 8020 Seminar in Cognitive Aging (3 Credit Hrs.)
- PSYC 8020 Seminar in Cognitive Aging (3 Credit Hrs.)

Doctor of Philosophy with a Major in Psychology (Specialization in Engineering Psychology)

The Engineering Psychology Ph.D. program focuses on understanding the capabilities and limitations of human performance from the perspective of perception, cognition, and movement control and applying this knowledge to the design of systems and environments that accommodate those capabilities and limitations.

- PSYC 6018 Principles of Research Design (3 Credit Hrs.)
- PSYC 6000 Responsible Conduct of Research (1 Credit Hrs.)
- PSYC 6019 Statistical Analysis of Psychological Data I (5 Credit Hrs.)
- PSYC 6020 Statistical Analysis of Psychological Data II (5 Credit Hrs.)
- PSYC 6011: Cognitive Psychology (3 Credit Hours)
- PSYC 6014: Sensation & Perception (3 Credit Hours)
- PSYC 7101: Engineering Psych I: Methods (3Credit Hours)
- PSYC 7102: Engineering Psych II: Displays, Controls, & Workspace (3 Credit Hours)
- PSYC 8040: Seminar in Engineering Psychology (3 Credit Hours)
- PSYC 8040: Seminar in Engineering Psychology (3 Credit Hours) or Psyc 7104: Psychomotor and Cognitive Skills (3 Credit hours)

Doctor of Philosophy with a Major in Psychology (Specialization in Industrial/Organizational Psychology)

The Industrial/Organizational Psychology (I/O) PhD program concentrates on research related to the psychology of work and the workplace. Students develop specialized I/O knowledge, skills, and experiences through an individually tailored program of seminars, elective courses, participation in laboratory- and field-based research projects, and training in local organizations.

Quantitative Core (Must Take All)

- PSYC 6018 Principles of Research Design (3 Credit Hrs.)
- PSYC 6000 Responsible Conduct of Research (1 Credit Hrs.)
- PSYC 6019 Statistical Analysis of Psychological Data I (5 Credit Hrs.)
- PSYC 6020 Statistical Analysis of Psychological Data II (5 Credit Hrs.)

I-O Fundamental Requirements (Must Take Three)

- PSYC 7201 Research in I-O Psychology (3 Credit Hrs.)
- PSYC 7202 Personnel Selection (3 Credit Hrs.)
- PSYC 7203 Organizational Psychology (3 Credit Hrs.)

I-O Electives (Must take 4)

- PSYC 6270 Psychological Testing (3 Credit Hrs.)
- PSYC 7204 Training and Development (3 Credit Hrs.)
- PSYC 7205 Teams (3 Credit Hrs.)
- PSYC 7206 Motivation and Job Attitudes (3 Credit Hrs.)
- PSYC 720X Other I-O Named Courses (3 Credit Hrs.)
- PSYC 8050 Seminar in I-O (3 Credit Hrs.)

Foundational Psychology Courses (Must take 2 – Suggested 3)

- PSYC 6011 Cognitive Psychology (3 Credit Hrs.)
- PSYC 6012 Social Psychology (3 Credit Hrs.)
- PSYC 6013 Sensation and Perception (3 Credit Hrs.)
- PSYC 6014 Sensation & Perceptions (3 Credit Hrs.)
- PSYC 6015 Developmental Psychology (3 Credit Hrs.)
- PSYC 6016 Human Abilities (3 Credit Hrs.)
- PSYC 6021 Personality Theories (3 Credit Hrs.)
- PSYC 6060 Psychology of Aging (3 Credit Hrs.)
- PSYC 6090 Cognitive Neuroscience (3 Credit Hrs.)
- PSYC 7020 Survey of Cognitive Aging (3 Credit Hrs.)
- PSYC 7101 Engineering Psychology I: Methods (3 Credit Hrs.)
- PSYC 8000 History & Systems (3 Credit Hrs.)
- PSYC 8020 Seminar in Cognitive Aging (3 Credit Hrs.)

Quantitative Psychology Courses (Must take 2 – Suggested 3)

- PSYC 7301 Multivariate Statistics (3 Credit Hrs.)
- PSYC 7302 Structural Equation Modeling (3 Credit Hrs.)
- PSYC 7303 Psychometric Theory (3 Credit Hrs.)
- PSYC 8060 Seminar in Quantitative Psychology (3 Credit Hrs.)

Doctor of Philosophy with a Major in Psychology (Quantitative Psychology)

The Quantitative Psychology Program emphasizes the interface between quantitative methods and psychological issues. Graduates will be trained as quantitative specialists, with a substantial background in psychology. The exact focus of the student's studies depends on the current interests of the faculty and the student. Current faculty interests and course offerings include psychometric methods, item response theory, structural equation modeling, multivariate statistics, factor analysis, and multilevel

modeling, as well as many other topics in psychological methods and statistics.

Quantitative Core Courses (Must take all)

- PSYC 6018 Principles of Research Design (3 Credit Hrs.)
- PSYC 6000 Responsible conduct of Research (1 Credit Hrs.)
- PSYC 6019 Statistical Analysis of Psychological Data I (5 Credit Hrs.)
- PSYC 6020 Statistical Analysis of Psychological Data II (5 Credit Hrs.)

Five Quantitative Psychology Elective Courses (Must take 5 courses)

- **PSYC 7303. Psychometric Theory. 3 Credit Hours.**
- PSYC 7301 Multivariate Statistics (3 Credit Hrs.)
- PSYC 7302 Structural Equation Modeling (3 Credit Hrs.)
- PSYC 7303 Psychometric Theory (3 Credit Hrs.)
- PSYC 8060 Seminar in Quantitative Psychology (3 Credit Hrs.), Note 1

Note 1: Typical topics for Psych 8060 Seminar courses include Multilevel Modeling, Longitudinal Modeling, Categorical Data Analysis, Scaling, Advanced Item Response Theory, Dynamical Systems, and Time Series. The five-course Elective requirement for the Ph.D. with a specialization in Quantitative can be fulfilled with all Psych 8060 seminar courses or other (elective) courses approved by the area and graduate coordinator.

ADDITIONAL REQUIREMENTS FOR THE DOCTORAL DEGREE

MASTER THESIS: Students are required to complete a master thesis reporting the results of independent research that indicates research competency. The thesis must be successfully defended to the student's thesis committee. Students should enroll in a minimum of 9 credit hours of PSYC 7000 Master's Thesis while completing their project and thesis.

INSTITUTE MINOR: The minor consists of at least *nine semester hours* of work in related courses, selected by the student in consultation with the Advisor and approved by the Graduate Coordinator and the Georgia Tech Office of Graduate Studies. Courses taken for the minor should be at the 6000 level or above. Under special circumstances, a single (3-credit or less) 4000 level course may be used to fill the requirement (but only if it is a course offered outside of the School of Psychology). Courses that are taken as pass/fail are not eligible to count toward the doctoral minor.

PRELIMINARY EXAM: A qualifying examination committee shall be appointed for each student and is responsible for making an overall recommendation concerning the outcome of the qualifying examination.

DOCTORAL THESIS: Students are required to complete a doctoral thesis reporting the results of independent research that advances the state-of-the-art in psychological science in the student's specialization discipline. The dissertation thesis must be successfully defended to the student's thesis committee. Students should enroll in 1-21 credit hours of PSYC 9000 Doctoral Thesis while completing their project and thesis.