COGNITIVE PSYCHOLOGY, PHD

Contact

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Faculty

Daniel Corral, Ph.D., Catherine A. Cornwell, Ph.D., Amy H. Criss, Ph.D., Michael L. Kalish, Ph.D., David Kellen, Ph.D., Lynn J. Lohnas, Ph.D., Lael J. Schooler, Ph.D., Bradley A. Seymour, Ph.D., Jeffrey Zemla, Ph.D.

Program Description

Research and training in the program is centered on using computational methods and theory to understand fundamental mechanisms underlying cognitive and neural processing. Cognitive and perceptual processes under study include visual perception, memory, learning, attention, knowledge development, concepts and categories, problem solving, reasoning, and decision making. Research in this area contributes to the understanding of human behavior in individual and social environments and provides the structure on which to build applications to improve health and behavior.

Students receive research training at the forefront of cognitive psychology. Students are assigned a core faculty member as primary advisor upon entry to the program and are required to actively participate in research through the duration of their program of study. Participation is designed to facilitate the development of research and professional skills necessary for a career in psychological science.

Admissions

The program is strongly committed to the recruitment of individuals from diverse backgrounds. Applications are considered for the fall term only, and the deadline for receipt of the completed application is December 1. Only full-time students are considered for admission.

The admissions committee considers a candidate's complete application and whether the research interests of this student matches with a member of the faculty. Research interests, skills, and experience are preferred.

Financial Support

The department makes a determined effort to offer each student who is in good standing financial support in the form of a stipend and tuition remission. Stipends may stem from several sources including, teaching assistantships, research assistantships, and fellowships. Outstanding students are placed into competition for university-wide fellowships. In addition, students are encouraged to apply for available external funding.

Satisfactory Progress

Students' progress is reviewed by the program faculty each year. The requirements for satisfactory progress are as follows:

1. Academic or course-related requirements. Students should make progress toward completing their coursework. A cumulative GPA of 3.0 or better, exclusive of independent study courses, is required to maintain good standing with regard to GPA. In addition, students are required to earn a grade of B or better in all required courses.
2. Research
   Students are expected to actively participate in a research group, demonstrate the ability to function independently in all phases of the research process, and make timely progress toward completion of research requirements.

   Deadlines for Research milestones are:
   a. The first-year project is due by May 15th of the first year.
   b. Students propose their Master's thesis by September 30th of their second year and complete the Master's thesis by May 15th of their second year - or - students complete their pre-doctoral research project by May 15th of their second year.
   c. Students must pass the Ph.D. qualifying exam by Feb 1st of their third year.
   d. The Ph.D. dissertation proposal must be completed by September 30th of the 4th year with a dissertation advisor who is a core faculty member of the program. Students are expected to defend the dissertation by the end of their fifth year.
3. Professional Development
   Students are expected to develop professional skills and materials in preparation for a scientific career, broadly speaking.

   In addition, all students who receive department funding as a Teaching Assistant will be evaluated each semester by the faculty member assigned to the course. Each student's overall performance will be assessed (e.g., teaching effort and performance, attendance, meeting deadlines, following course guidelines and policies, professionalism, etc.). In addition, if the TA assignment includes teaching, the faculty member may conduct an in-class observation to evaluate each student's teaching skills and individualized feedback will be provided. It is expected that a student's overall performance each semester, as assessed by the faculty member assigned to the course, will meet or exceed expectations in order for a student to remain in good standing in the program.

Student Learning Outcomes

1. Explain fundamental mechanisms, underlying cognitive and neural processing
2. Develop a toolbox of computational skills
3. Synthesize the literature and develop novel ideas, approaches, methods, or theory to advance their sub-field
4. Conduct original research in the field
5. Organize and interpret scientific data for written and oral presentation
6. Follow ethical guidelines of the American Psychological Association
7. Demonstrate expertise as a psychology instructor

Program Requirements

The curriculum is designed to provide students with the essential coursework and laboratory research experience necessary for an academic or research career. Students are required to take 90 credit hours and meet a series of Milestones.

Required Course Work

The courses offered in the program consist of intensive exposure to the prominent theories and methods in cognitive psychology.

Code	Title	Credits
Statistics Core		
PSY 655	Experimental Design and Statistical Methods I	3
PSY 756	Experimental Design and Statistical Methods II	3
Methods Core		
PSY 611	Proseminar Methods and Topics in Cognitive Psychology	12
Note: This class is taken each year in the program for a maximum of 15 credits		
PSY 612	Advanced Experimental Psychology	3
PSY 624	Graduate Seminar in Psychological Methods	3
PSY 854	Bayesian Statistical Analysis	3
Cognitive/Neural Bases		
PSY 736	Advanced Introduction to Cognitive Psychology	3
Select three of the following:		9
PSY 620	Using Robots to Understand the Mind	
PSY 622	Cognitive Psychology: Memory and Attention	
PSY 626	Cognitive Neurochemistry	
PSY 730	Seminar in Experimental Psychology	
PSY 737	Experimental Psychology: Cognition and Human Aging	
PSY 777	Advanced Cognitive Neuroscience	
Electives		
Three courses chosen from areas outside of cognitive psychology. Students are encouraged to select elective courses that are application areas for cognitive psychology or that broaden knowledge or courses that deepen or strengthen methodological and statistical skills.		9
Dissertation		
PSY 999	Dissertation	18
Independent Research & Other Courses		
Students chose additional courses to complete the minimum 90 credits for the PhD. Students are encouraged to work closely with one or more faculty members in a research program and to develop a program of research. Research is reflected in courses including PSY 997, 690, or 990. Students should take courses that strengthen their training. Elective courses should be selected in consultation with the advisor. We strongly recommend students select electives that will further their statistical or methodological skills		24
Total Credits		**90**

Milestones

In addition to the required coursework, all students must complete the following milestones:

- Complete a first year research project.
- Successfully pass a Qualifying Examination.
- Complete a Master's thesis or a pre-doctoral research project.
- Successfully complete a dissertation.

Optional Concentrations

Please keep the triple dipping rule in mind as you consider the following optional programs to complement your MA and PhD programs.

The no triple dipping rule: Per university policy (link: https://syracuse-next.courseleaf.com/undergraduate/academic-rules/ (https://coursecatalog.syracuse.edu/undergraduate/academic-rules/)), specific courses/credits can be counted toward up to two (but no more than two) graduate programs or degree. Courses listed in the Program of Study for the Master's in Psychology count towards the PhD in Cognitive Psychology.

Concentration in Neuroscience (Optional)

Requirements

Complete the following courses:

Code	Title	Credits
BIO 607	Advanced Neuroscience	3
PSY 777	Advanced Cognitive Neuroscience	3
NEU 614	Interdisciplinary Methods of Neuroscience	0-3
NEU 613	Readings in Neuroscience	0-3

In addition, students are expected to:

Present at least one special seminar and participate in other research days organized or sponsored by the Interdisciplinary Neuroscience Program during your tenure as a student.

Attend program-sponsored seminars given by outside speakers, graduate students, postdocs, and faculty.

Concentration in Advanced Quantitative Methods in Psychology (Optional)

The program has two goals. First, students will receive training in a wide range of advanced statistics or quantitative methods. Such breadth assures that students have maximum flexibility in designing a curriculum that best fits their individual career goals. Second, the program emphasizes competence in the application of knowledge and analytic skills acquired through coursework to students' own research. Together these will help promote the pursuit of high-quality research and research-focused careers in academic and non-academic settings.

Pre-requisites

Code	Title	Credits
PSY 655	Experimental Design and Statistical Methods I	3
PSY 756	Experimental Design and Statistical Methods II	3

Requirements (Part A)

12 credit hours of coursework focusing on statistical or quantitative methods at the 500-level or above. Select from these courses:

Code	Title	Credits
CSE 581	Introduction to Database Management Systems	3
IST 718	Big Data Analytics	3
MAT 521	Introduction to Probability	3
MAT 525	Mathematical Statistics	3
MAT 651	Probability and Statistics I	3
MAT 652	Probability and Statistics II	3
MAT 750	Statistical Consulting	3
PSY 612	Advanced Experimental Psychology	3

PSY 624	Graduate Seminar in Psychological Methods	3
PSY 653	Psychological Measurement	3
PSY 780	Introduction to Structural Equation Modeling	3
PSY 854	Bayesian Statistical Analysis	3

To demonstrate the minimum level of competence, students must earn a B- or better in each of the courses.

Courses may count toward the certificate and other degrees so long as the 'triple dipping' rule and any other university policies are met.

Requirements (Part B)

An approved empirical research product demonstrating competence in the use of an advanced statistical or quantitative method.

A research product that demonstrates competence in the use of an advanced statistical or quantitative method may include one of the following options:

(b-1) submitting a manuscript based on empirical research using an advanced statistical or quantitative method for peer review, or

(b-2) successfully defending a thesis, qualifying exam, or dissertation using an advanced statistical or quantitative method. Specific statistical or quantitative methods on which the product is based may be different from those in the student's elective coursework or desired specialization areas in psychology.

To confirm that this requirement is met, the student must:

1. Submit to the committee a two-paragraph description about at the initiation of the project or proposal of the milestone: indicate the advanced statistical or quantitative method to be used in their project, along with a statement that the student alone will conduct the advanced statistical or quantitative method analysis. The committee will indicate if the proposal is sufficient for this requirement.
2. After the completion of the project, the committee must review and approve the final product along with a short statement confirming that they conducted the advanced statistical or quantitative method.