

ICS

INSTITUTE OF COGNITIVE SCIENCE

Academic Guidelines

P.O. Drawer 43772
Lafayette, LA 70504-3772
(337) 482-1130
(337) 482-1222 (Fax)
www.ics.edu
ics@louisiana.edu

Revised: January 9, 2008

Institute of Cognitive Science

Academic Guidelines

Introduction to the Institute of Cognitive Science

The University of Louisiana at Lafayette offers a Ph.D. in cognitive science through its Institute of Cognitive Science. The Institute considers applications on an ongoing basis with a view toward accepting students for the Fall semester of each academic year, although requests for Spring admission will also be considered. Fellowships¹ and assistantships are available and will be awarded on a competitive basis.

The Institute of Cognitive Science emphasizes the comparative study of human, animal and machine cognition. It is constituted in part by laboratories and projects that investigate human, nonhuman animal and machine cognition. These laboratories and projects include the Artificial Neural Network Analysis Project, the Adaptive Processes Lab, the Creativity and Cognition Project, the Cognitive and Discourse Processes Lab, the Language and Cognition Laboratory. The Institute also links researchers in various university units, including the Center for Advanced Computer Studies (CACS), the departments of Psychology, Philosophy, Biology, Mathematics, and Communicative Disorders, and the New Iberia Research Center (NIRC).

This document contains information on the following topics: (a) Admission requirements; (b) Degree requirements, (c) Outline of the degree program, (d) Sample curricula, and (e) Application information.

Faculty of the Institute of Cognitive Science

Faculty

Istvan Berkeley, Associate Professor of Philosophy and Adjunct Faculty in Computer Science

Claude Čech, Professor of Psychology and Adjunct Faculty in Computer Science

Subrata Dasgupta, Director and Eminent Scholar Chair in Computer Science, and Professor, Department of History

Michele I. Feist, Assistant Professor of Cognitive Science

Matthew Isaak, Assistant Professor of Psychology

Michael Kalish, Associate Professor of Cognitive Science

Cheryl Lynch, Assistant Professor of Psychology

Anthony S. Maida, Associate Professor of Computer Science

¹ The Institute of Cognitive Science offers University fellowship and assistantships for qualified graduate applicants. ICS has been awarded three prestigious graduate fellowships through the LA Board of Regents. See Applications for Admission and Fellowships/Assistantships.

Affiliate Faculty

Shalini Arehole, Associate Professor and Hawthorne BORSF Distinguished Professor of Communicative Disorders

Robert Bothwell, Associate Professor of Psychology

Jack Damico, Doris Hawthorne Eminent Scholar of Communicative Disorders

William R. Edwards, Jr., Associate Professor of Computer Science

Babette Fontenot, Division of Behavioral Sciences Head, New Iberia Research Center

David Greenway, Assistant Professor of Psychology

Raja Loganantharaj, Associate Professor of Computer Science

Valanne MacGyvers, Assistant Professor of Psychology

Robert McFatter, Professor of Psychology

John Oller, Jr., Professor of Communicative Disorders

Daniel Povinelli, Professor, Cognitive Evolution Group & Director, Center for Child Studies

Claiborne Rice, Assistant Professor of English

Glenn Watson, Associate Professor of Biology

Admission Requirements for the Ph.D. Program

Students seeking admission to the Ph.D. program will usually have at least an undergraduate B.S. or B.A. degree in cognitive science or a related discipline (e.g., psychology, linguistics, computer science, philosophy, neuroscience), but applicants from other backgrounds and/or with Master's degrees will also be considered. If necessary, students may be required to take courses without credit to fulfill prerequisites for graduate courses. Once admitted, each student will be assigned an advisor. If interests change, a new advisor may be assigned.

Admission into the graduate program will be based upon evaluation and recommendation by the Graduate Admissions Committee. Applicants would normally be expected to have a minimum of 1135 as their combined total on the verbal and quantitative sections of the GRE, and a satisfactory score on the analytic section. They must also promise strong research potential in cognitive science as well as likelihood of success in a graduate program, as evidenced by letters of recommendation from at least three qualified persons who are familiar with the applicant's previous academic accomplishments. In addition, applicants must submit a personal statement of goals and research interests, not to exceed two single-spaced, typewritten pages.

In addition to these requirements, the UL Lafayette Graduate Bulletin specifies that international students must present a TOEFL score of 550 prior to admission. Students placing below this will be required to take ESOL 402 and 403.

COGS 535 Computational Issues in Cognitive Science
COGS 541 Cognitive Neuroscience
COGS 545 Special Topics in Cognitive Neuroscience
COGS 551 Comparative Cognition
COGS 555 Issues in Comparative Cognition
COGS 561 Cognitive Development
COGS 565 Issues in Cognitive Development
COGS 575 Issues in Mind & Language
COGS 581 Creativity and Cognition
COGS 585 Evolutionary Perspectives on Cognition
COGS 669 Advanced Topics in Infant Cognition
COGS 681 Methods in Behavioral Research
COGS 691 Advanced Topics in Cognitive Science
COGS 590 Special Project (Up to 6 hours may be counted toward the major)

Completion of the major is expected by the end of the second full year of study. Brief descriptions of ICS courses are available in the UL Lafayette Graduate Bulletin. Because the Graduate Bulletin appears bi-annually, students should consult the latest edition of the ICS Academic Guidelines for up-to-date information on courses and the curriculum. Students should consult the Graduate Coordinator in the event that there are appropriate elective courses offered in other departments.

Minor Concentration

In order to ensure that graduates of ICS are able to compete successfully for jobs in departments of Cognitive Science as well as in traditional academic departments (e.g., Psychology, Philosophy, Computer Science), all students are required to complete twelve hours of coursework in one of the contributing disciplines (artificial intelligence, linguistics, neuroscience, philosophy, experimental psychology). These 12 hours may include courses taught in the respective departments or appropriate courses taught within ICS. Neither the core 1st year courses nor any course used to complete the core elective requirement may also be counted toward the minor.

Research Requirements

- **First year research practicum.** This research project must be developed in consultation with a faculty research advisor, and must be presented (together with all other 1st year projects) at a special end-of-year colloquium. The project must be of a sufficient scope to merit such presentation and of an extent limited enough to expect completion within one academic year. The project may fall under any area of Cognitive Science and may, but certainly need not, be in the same area as the eventual PhD research. Students are expected to enroll in three hours of COGS 590 in the Spring semester as part of the practicum. Some guidelines for the timing of the project include:
 - Students are expected to obtain a research advisor and begin work on the first year project early in their first semester. Students should work with their advisor to identify a research question and a means of addressing it.

- Any empirical work should be well underway by the beginning of the second semester. Students should have appropriate responsibility for the design and completion of this work.
- Any data to be collected should be in hand by the middle of the second semester. Students should expect to complete analysis of their results with the assistance of their advisor.
- Students should expect to practice their 10 minute presentations with their advisor prior to the colloquium.
- **Continuing research activity.** The Institute expects all students to maintain active research both prior to and following their dissertation proposal defense. Pilot research, comprehensive literature reviews or similar activities suitable for presentation at the Institute's colloquium series is a requirement for satisfactory progress in the pre-qualifying stages of residency at the Institute. This research is carried out in parallel with coursework, and is not necessarily a source of graduate credit hours (although COGS 590 may be used as appropriate).
- **Dissertation research.** As described below, the Institute requires approval of a research-based dissertation proposal followed by the completion of a dissertation. The dissertation research is a source of graduate credit, as COGS 699, no more than 24 hours of which can be accumulated toward the 72 hours required by the University for the PhD degree.

Comprehensive Examination in Cognitive Science

Mission: The comprehensive examinations ensure that students are able to present themselves effectively in professional settings (such as conferences and job interviews) and have the understanding of the field necessary to complete PhD level research. The comprehensive is administered as a written examination to be taken immediately following completion of the course requirements for the Major. Save in extraordinary circumstances, this would be no later than the beginning of the fifth semester of enrollment in the Cognitive Science PhD program. The examination will contain four questions; a list of sample questions is provided at matriculation and is renewed annually. Of the four questions on the examination the candidate must answer any three. The questions are intended to examine candidates' general breadth of knowledge about cognitive science (implying that no area is out-of-bounds for examination), their ability to integrate knowledge across cognitive science's sub-disciplines, and their ability to contextualize the depth of knowledge they have achieved in their area of specialization. Students should consult closely with their research advisor and the Graduate Coordinator before attempting to sit the comprehensive examination.

The exam will be graded as a Pass, Provisional Pass (in which case the committee may require a supplemental oral examination) or a Fail. A candidate who fails the exam can retake it once only, and the second examination must occur with one year of the first. A student who fails the comprehensive examination on the second try will be required to withdraw from the program. Students may appeal comprehensive examination decisions by making a formal application, stating the grounds for their appeal, to the Graduate Coordinator, who will bring the appeal to the notice of an appropriate *ad hoc* committee. Such applications must be made within two weeks of being notified of the outcome of the examination. Subsequent appeals may be addressed to the University Student Appeals Committee.

Dissertation Proposal Defense

Upon completion of the Comprehensive Examination the student will petition the Director with a nominated advisory committee (the form for a Doctoral Advisory Committee is available on the Graduate School's website). The Director will expect the committee to include a minimum of two members of the ICS Council of whom one would be the chair. Any member of the graduate faculty can serve as co-chair with the Director's approval. Lists of the ICS personnel are available from the Institute.

The first act of the student before the committee is to conduct a dissertation proposal defense. We expect that this will occur not later than the semester following the exam (thus, normally the Spring semester of the third year). The dissertation proposal defense may only be scheduled once the comprehensive exam has been passed, and must be passed before dissertation research can commence. It is therefore vital that the proposal be submitted and approved as early as possible. The student will advance to candidacy (applications are available on the Graduate School's website) only once the proposal (termed a 'prospectus' by the Graduate School) is approved. Only under unusual circumstances would candidacy last less than one full semester.

In the dissertation proposal, students should show mastery of the appropriate literature, present a clear-cut question and lay out a detailed research plan. Students should also address the relevance and importance of the proposed research. The defense should be scheduled as a short (35 minute) colloquium presentation, followed by a closed session with the student's committee. Students must allow a minimum of 10 days between submitting the proposal to the committee and the defense. The student should be prepared to answer questions from the committee regarding their proposal. The student will pass the proposal defense when they receive a unanimous vote from the committee in their favor. At this point the advisory committee is replaced with a dissertation committee (the form for this committee is available on the Graduate School's website), again requiring approval from the Director.

Dissertation Defense

The defense (called the 'general exam' by the Graduate School) shall be scheduled with the dissertation committee upon completion of the written dissertation. Before the defense is scheduled, the student (with the assistance of their advisor) should solicit from the committee members confirmation that they believe the dissertation is in a defensible form. Students must allow a minimum of 14 days between submitting the dissertation to the committee and the defense. The defense shall consist of an oral presentation by the doctoral candidate, followed by oral questioning by the committee. Dissertation defenses may be conducted in any semester, but defenses scheduled for the summer semester must be announced by mid-April. All doctoral candidates, in conjunction with their advisor, should ensure that they have satisfied all the degree requirements as laid out in the Graduate Bulletin.

Normative Timeline

- First year: Complete core courses and research practicum; begin electives (or remedial coursework).
- Second year: Form advisory committee, complete coursework for major (prepare for comprehensive exam)

Third year: (Fall) Take comprehensive exam.
Defend proposal. Complete all coursework
Fourth year: (Spring) Defend dissertation.

Note that ICS Research Assistantships have a duration of four years (contingent on funding from the University), and that students seeking support for additional years must compete with each other and incoming students for funding.

General regulations

Finally, there are several general regulations concerning the graduate degree that need emphasis. Some of them are listed in the Graduate Bulletin, and include the following:

1. 400G-Level Courses

No more than six of the minimum 48 semester hours of required course work may be earned in classes that are not limited to graduate students.

2. Candidacy

Students must complete the core course requirements, complete the minor, pass an examination of proficiency in written English (a Graduate School requirement), pass the comprehensive examination (see below), and have their dissertation committee approved by the Graduate Committee before applying for candidacy for the degree.

3. Comprehensive Exam, Dissertation Proposal Defense, and Dissertation Defense

To receive a doctoral degree, students must successfully complete the comprehensive exam, the dissertation proposal defense, and dissertation defense. Forms and regulations are on the Graduate School website.

B. Summary of Essential Requirements for the Doctoral Degree

An outline of the essential degree requirements in roughly the chronological order in which they should be completed is:

- 1 Complete the four core 1st year courses (for 12 credit-hours)
- 2 Complete the 1st year research practicum (for 3 credit-hours).
- 3 Complete 18 hours of core electives.
- 4 Pass the written comprehensive exam in a maximum of two attempts.
- 5 Complete a 12-hour minor in one of the contributing disciplines.
- 6 Enroll in Colloquium (COGS 595) every semester to both attend and present as appropriate.
- 7 Pass the oral Ph.D. proposal defense in a maximum of two attempts.
- 8 Pass the Ph.D. dissertation defense.

NB: All students must meet the following essential university regulations:

- a. Apply at least 72 hours of graduate credit to the degree.
- b. Apply up to 24 hours of COGS 699 (dissertation research) to the degree.

- c. Complete a minimum of 48 hours of coursework at the graduate level (no more than six of which can be from 400 level courses).
- d. Complete at least two consecutive semesters (not including summer sessions) in full-time residence at the Institute.
- e. Complete all degree requirements within seven years of enrolling in the first graduate-level course at the Institute for full-time students.

Dr. Claude Čech
Graduate Coordinator
Institute of Cognitive Science
University of Louisiana at Lafayette
Lafayette, LA 70504-3772
USA

The Graduate School
University of Louisiana at Lafayette
Lafayette, LA 70504
USA

For additional information, contact Dr. Claude Čech at cech@louisiana.edu, or visit our website at <http://ics.louisiana.edu/>.