



Department of Cognitive Sciences
University of California, Irvine

**Information for Graduate Students
Entering in 2006-07**

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1. Overview

The Department of Cognitive Sciences welcomes you to its Psychology Ph.D. graduate program. This pamphlet is designed to acquaint you with the Ph.D. program and some of the procedures specific to this Department.

UC Irvine has a number of policies concerning graduate study. These can be found in the UC Irvine 2006-07 General Catalogue, which is available as a printed document or on the web in HTML (www.editor.uci.edu/catalogue) or PDF format (<http://www.editor.uci.edu/catalogue/06-07Catalogue.pdf>). The Office of Graduate Studies describes Campus-wide graduate program policies in the Catalogue on pages 90-97.

The School of Social Sciences, of which the Department of Cognitive Sciences is a member department, houses a number of departments and research centers, including the Institute for Mathematical Behavioral Sciences and the Center for Cognitive Neuroscience. The School has a Graduate Office (<http://www.socsci.uci.edu/gradoffice/>), which manages many important administrative functions concerning graduate study in this Department.

Each arriving graduate student is assigned a faculty member as their graduate advisor. Faculty members of the Department have their offices in either the Social Science Plaza A building (SSPA) or the Social Science Plaza B building (SSPB). Labs are located in the Social Science Lab building (SSL) or in one of the plaza buildings. While many students have their offices in their graduate advisor's lab, students can also request office space on the 6th floor of the Social Science Tower building (SST) for holding Teaching Assistant office hours and for general use. All incoming graduate students are assigned office space in the large 679 room. A map of the campus may be found on the web (http://today.uci.edu/pdf/UCI_06_Map.pdf).

Department administrative offices are located on the third floor of SSPB in Rms. 3211, 3215, 3219 & 3221. Much of your first year coursework takes place in the Cognitive Sciences Seminar Room, SSPB 3218, just across the hall from these offices. Your mailbox is in the mailroom on the third floor of SSPA (room 3151), directly across from that building's elevator.

The Course Catalogue provides the official description of the Cognitive Sciences graduate program on pages 453-460. The Department website also describes the program (www.cogsci.uci.edu/gradbrochure.shtml). The requirements for you as a graduate student matriculating in academic year 2006-07 are stated in the 2006-07 Catalogue, not in catalogues for any other year. The reason is that requirements change from year to year. For instance, the first-year required courses Psych 205A-B are new for the academic year 2006-07. These courses are required of you, a newly-matriculating student in 2006-07, but not of students who entered the program earlier.

The Department's Director of Graduate Studies is Professor Geoffrey Iverson. His office is on the third floor of SSPA in Room 3129; his email is giverson@uci.edu. Professor Iverson is, beyond your advisor, perhaps the most valuable faculty member to graduate students. If any question comes up that your advisor cannot handle, try Professor Iverson.

The normative time to obtain one's doctorate in this program is five years. Excellent performance is required throughout this period. Four years - amazing. Six is fine. Seven is not. Best of luck!

2. Useful Information

Keys: Keys to SSPA, SSL, SST and your office and lab space can be obtained from Mario Nunez, Facilities Assistant, in SSPA 1185. There is a \$10 deposit for each

key which will be refunded when you return your keys. Mario also maintains the School of Social Sciences scantron machines, located next to SSPA 3165, which is often used for TA duties.

Computers: Most faculty advisors provide some computing resources in their labs for research use. A computer lab for Social Sciences Graduate Students is also available on the 6th floor of SST (Room 604). These computers have SPSS statistics software which will be necessary for some first year coursework. NACS (<http://www.nacs.uci.edu>) maintains the campus computer network. On their website you will find a number of resources including software, email information, and policies. UCI has wireless internet access covering most of the campus called UCInet Mobile Access. To use this network (or connect by wire) you must first register your computer's MAC address. Do this on the NACS website. Computers in the School of Social Sciences are maintained by Social Sciences Computing Services (<http://www.socsci.uci.edu/sscs/>) located in SST 165.

Libraries: UCI has two main libraries, Langston Library and the Science Library. Your UCI student ID card serves as your library card but must be activated by visiting a library. You can access online journal subscriptions and databases through the library website. You must be using a computer with a campus IP address to access these resources. When you are off campus, you can access subscription journals by using Virtual Private Network (VPN) software attainable via the NACS website.

Teaching Assistantships: Teaching assistant assignments are coordinated by Graduate Office Manager John Sommerhauser (SSPA 5149, jdsommer@uci.edu). An e-mail announcement is sent out, and applications are submitted online. TAs are assigned schoolwide, thus you might be assigned a TAship outside the Department of Cognitive Sciences. When you apply, you will specify which courses you are interested in TAing. Please note that faculty members can also request specific TAs, so if you are

particularly interested in a certain course, it is wise to contact the instructor ahead of time.

Payroll and Financial Issues: Stipend checks are issued on the first of the month and delivered to the Social Sciences Graduate Office, which is located on the 5th floor of SSPA, unless you have direct deposit. If a stipend check is requested for any time other than the first of the month, and you do not have direct deposit, the check must be picked up in Financial Services, 101 Administration.

If you have questions, Graduate Office Manager John Sommerhauser (SSPA 5149, jdsommer@uci.edu) handles most issues relating to TA and fellowship stipends.

On Campus Housing: If you are interested in living in on campus Graduate Housing, you can find information on the Graduate Housing website: <http://www.housing.uci.edu/graduate/> Current Palo Verde Residents Council member John Pyles (jpyles@uci.edu), a student in the Department, is also happy to answer questions.

3. First-year coursework

You are expected to take three course sequences in the first year. These include a three-quarter proseminar sequence that covers areas such as learning, memory, perception, and language (Psychology 202A-B-C). The second is a quantitative research methods sequence that covers the areas of probability, statistics, and experimental design (Psychology 203A-B-C). The third is a computational research methods sequence that covers programming for experiments and data analysis (Psychology 205A-B). Suitable substitutes may be made with written approval of the Department's Director of Graduate Studies (Professor Iverson) and the Professor responsible for the substituted course. Completion of the quantitative research methods

sequence may be extended over two years if warranted by the background or needs of the student; again, check with Professor Iverson. You are expected to enroll in the Cognitive Sciences Research Seminar (Psychology 201A-B-C) during all quarters in residence prior to passage of the advancement-to-candidacy examination. This research seminar is known as the "Colloquium". Colloquia are held Mondays at 4PM in SSPA 2112.

Some students also choose to take an additional elective course during their first year, particularly if it is immediately relevant to your research (such as the fMRI series).

Be certain to enroll in your graduate courses, with the Registrar (www.reg.uci.edu), before the end of the second week of class. There is a financial penalty if you fail to register on time.

A number of first-year students – you may be one of them - are supported by a teaching assistantship. Be careful not to overload yourself the first year with too much difficult coursework and teaching assistant duties.

4. Course requirements

You must take at least five more courses, beyond those required in the first year, before advancing to candidacy. These courses are normally taken from at least three of the following seven modules: Foundations (Psychology 200-209); Human Cognition (Psychology 210-229); Methodologies and Models (Psychology 230-239); Virtual Reality (Psychology 240-249); Human Performance (Psychology 250-259); Cognitive Neuroscience (Psychology 260-269); and Sensation and Perception (Psychology 270-289).

Additional advanced course work in other fields relevant to your interests can supplement the required courses.

To focus best on your graduate research in your second and following years of study, you should consider signing

up for Psychology 299, Dissertation Research, and/or Psychology 299, Individual Study, with your graduate advisor.

5. Second-year talk

You are expected to carry out theoretical/empirical research during the first two years. For many students, this research starts full tilt during the summer at the end of their first year of studies and continues through the second year. By the end of the second year, each student should have completed a research project of a scope and nature that is potentially publishable in a relevant journal. Each student is assigned a faculty advisor, and the advisor is responsible for assisting in the planning and in other facets of the project.

At the end of your second year, you are required to present a talk to the Cognitive Sciences Research Seminar (the colloquium), based on your research project. If you are not already conversant with PowerPoint, this will be your chance. This talk is scheduled towards the end of the spring quarter of your second full year in the graduate program. Another forum for the second-year talk may be substituted with the written approval of Graduate Director Iverson.

If your talk is not already written up in paper form by the time you present it in the spring quarter of your second year, then you should write it up *immediately* afterwards. The requirement for this paper is as follows: by the end of the fall quarter following the second-year talk, you are required to write, submit and have approved a paper based on your research project. The paper must be approved by your advisor and the Director of Graduate Studies.

6. Master's degree

Although the Department does not have an M.A. program, you may earn an M.A. degree as part of the Ph.D. program.

Requirements are: (1) complete the required course work as outlined above; (2) present a talk and submit an approved paper, both based on empirical/theoretical research, as described above; and (3) fulfill a computer-programming language requirement by completing satisfactorily the computational research methods sequence Psychology 205A-B, or by demonstrating proficiency in use of a programming language for cognitive sciences research as assessed by two faculty members and approved by the Graduate Director.

The Master's degree is, oddly enough, a Masters of Arts in Social Sciences. The Department is working to change this so that you will receive a Masters of Arts in Psychology (like your Ph.D. degree) by the time you obtain your Master's.

Again, coordinate with Graduate Director Professor Iverson and with Graduate Office Manager John Sommerhauser to get your Master's degree application underway when the time comes.

7. Advancing to candidacy

The requirements for advancement to candidacy are three. These include (1) you must meet the requirements listed above for the M.A. degree, and (2) you must also form a five-member faculty committee selected according to Graduate Studies policy (http://www.rgs.uci.edu/grad/students/masters_req.htm).

In particular, one of the faculty members must be an external member; this person has no formal affiliation with the Department of Cognitive Sciences. The committee will

examine your knowledge of a topic which is determined in consultation with the committee. A written document describing your work on this topic must be submitted to the committee, in a timely fashion, prior to advancement. You must demonstrate an understanding of the background and issues for the research topic and show sufficient preparation and creativity to undertake planning for a dissertation project (*e.g.*, by describing a possible experimental design or outline a possible theoretical development). The final requirement is that (3) you must advance to candidacy by the end of the fall quarter of your third year in the program.

8. Ph.D. degree

The requirements for the Ph.D. degree are: (1) you must formally present and defend a written dissertation proposal to a committee of at least three members selected according to Graduate Studies requirements. The dissertation proposal presentation may take place as part of the examination for Advancement to Candidacy, in which case, that five-member committee will approve the dissertation proposal; (2) the proposal must be approved prior to the final dissertation defense (usually at least three months before to allow time for the candidate to incorporate suggestions and changes required by the committee); (3) prior to the approval of the final version of the dissertation, you are expected to defend the dissertation in a public colloquium announced with at least one week's notice; and (4) you must have fulfilled all requirements for the Ph.D. degree within three years after advancement to candidacy.

The normative time for advancement to candidacy is three years. The normative time for completion of the Ph.D. is five years, and the maximum time permitted is six years.

9. Department faculty

The Department web page lists faculty members of the Department, all of whom are eligible to advise you in your graduate research. The web page also lists a number of affiliated faculty, who are also eligible to advise you, provided that a faculty member of this department agrees to serve as your advisor in an official sense.

Faculty members of the Department of Cognitive Sciences are listed alphabetically below:

Bill Batchelder, Professor
Mathematical models of learning and memory, mathematical psychology, and measurement

Bruce Berg, Associate Professor
Audition, auditory attention, psychophysics of complex sounds, computational models of hearing

Mike Braunstein, Professor Emeritus
Visual perception

Charlie Chubb, Professor
Visual perception, mathematical modeling, histogram contrast analysis

Barbara Doshier, Professor
Human information processing, memory retrieval, attention, visual perception

Mike D'Zmura, Professor
Visual and auditory perception

Jean-Claude Falmagne, Professor Emeritus
Mathematical behavioral sciences

Emily Grossman, Assistant Professor
Visual perception and neuroimaging

Greg Hickok, Professor
Neuroanatomy of language, neural plasticity, neuroimaging, cognitive neuroscience

Don Hoffman, Professor
Machine and human vision, visual recognition, artificial intelligence, virtual reality, consciousness and cognition, shape from motion

Tarow Indow, Professor Emeritus
Mathematical models in visual space, color space and human memory

Geoffrey Iverson, Professor
Mathematical psychology, vision, statistical issues

Mary-Louise Kean, Professor
Cognitive neuropsychology, biological foundation of higher mental processes

Michael Lee, Assistant Professor
Mathematical and computational models of stimulus representation, categorization, memory, decision-making and problem solving

Duncan Luce, Distinguished Professor Emeritus
Axiomatic measurement, decision theory, psychophysics, response times

Virginia Mann, Professor
Reading ability: phoneme awareness, developmental dyslexia, phonological skills, early intervention, precocious readers speech perception: context effects, cross-linguistic comparisons

Louis Narens, Professor
Measurement, logic, metacognition

Kouros Saberi, Associate Professor
Signal detection & psychophysics, audition, cortical neuroscience, sensory genetics

Barbara Sarnecka, Assistant Professor
Cognitive development, language development, number concepts, conceptual change, parallels between individual cognitive development and the historical development of science & mathematics

John Serences, Assistant Professor
Visual attention, neuroimaging, cognitive neuroscience, decision-making, memory

George Sperling, Distinguished Professor
Empirical studies of human information processing: short-term visual memory systems, attention, visual perception, and 3D object recognition. Mathematical, computational, and neural models of visual processes: light adaptation, temporal sensitivity, contrast detection, motion and texture perception, stereopsis, and attention. Brain imaging: EEG, MEG, fMRI.

Ramesh Srinivasan, Associate Professor
Cognitive neuroscience, brain development, consciousness, perception, EEG, brain dynamics

Mark Steyvers, Associate Professor
Semantic influences in recognition and recall, computational models for knowledge extraction and processing, dynamic decision making models, causal reasoning, Bayesian networks

William Watt, Professor Emeritus
Cognitive semiotics

Ted Wright, Associate Professor
Cognitive psychology, human motor control, Fitts task, aimed movements, handwriting, immersive virtual reality, 1/f noise, quantitative models

Jack Yellott, Professor Emeritus
Mathematical psychology, visual perception

10. Affiliated faculty

Various faculty members of other departments are extended courtesy appointments by this Department. An affiliated faculty member can serve as your advisor, as long as there is a faculty member of our Department who can serve officially as your advisor. Note that an affiliated faculty member *cannot* serve as an external member of your candidacy committee. Affiliated faculty include:

Larry Cahill, Associate Professor of Neurobiology & Behavior
Neural mechanisms of emotionally influenced memory

Len Kitzes, Professor of Anatomy & Neurobiology
Physiology and anatomy of brainstem auditory system, developmental determinants of brainstem auditory system structure and function, auditory cortex function and structure

Beth Loftus, Distinguished Professor of Psychology & Social Behavior
Human memory, memory and law, jury decision making

Gary Lynch, Professor of Psychiatry & Human Behavior
Cellular mechanisms of regional vulnerability in brain aging process and aging-related neurodegeneration, mechanisms of synaptic plasticity: LTP, glutamate receptors and cell adhesion molecules

Jim McGaugh, Research Professor of Neurobiology & Behavior
Neurobiology of learning and memory

Kim Romney, Research Professor of Anthropology
Mathematical behavioral science, consensus analysis, quantitative anthropology

Mick Rugg, Professor of Neurobiology & Behavior
Cognitive neuroscience of human memory using EEG and fMRI research techniques

Arnold Starr, Research Professor of Neurobiology & Behavior
Neurological disorders affecting cognition, sensation and motor behaviors

Hal Stern, Professor of Statistics
Statistics, applications of statistics to biological and social sciences, sports and statistics

Jim Swanson, Director, Child Development Center
ADD, ADHD, child development

Norm Weinberger, Professor of Neurobiology & Behavior
Neurobiology of learning and memory, cortical plasticity, auditory system, cholinergic function, music

Fan-Gang Zeng, Professor of Anatomy & Neurobiology
Cochlear implants, auditory neuroscience, psychophysics, speech perception, auditory neuropathy

11. Non-discrimination policy

The University of California, in accordance with applicable Federal and State law and University Policy, does not discriminate on the basis of race, color, national origin, religion, sex, disability, age, medical condition (cancer-related), ancestry, marital status, citizenship, sexual orientation, or status as a Vietnam-era veteran or special disabled veteran. The University also prohibits sexual harassment. This nondiscrimination policy covers admission, access, and treatment in University programs and activities, including the graduate program administered by the Department of Cognitive Sciences at the University of California, Irvine.

12. Miscellany

Among those most knowledgeable about the graduate program are other graduate students.

Hard work is expected. You are often expected to work on things without being asked or told: develop independence.

Success in the graduate program depends on refining your knowledge of the English language, including reading, writing and speaking. Your specific research area often requires the high development of more specific skills: for instance, math, statistics, programming, software use and experimental design. You must develop these skills while acquiring expert knowledge of your research domain.

If you are thinking of an academic career, then bear in mind that "publish or perish" starts now.

Presenting one's work at a conference helps one gain visibility among potential future employers. Both the School and the Department will help reimburse your expenses when you present your work at a conference.

The School has a web page, maintained by Julie Hoigaard, which describes sources of funding for graduate students in Cognitive Sciences

<http://www.socsci.uci.edu/gradoffice/gradextras/index.htm>

D). Draw your advisor's attention to any funding opportunity that you believe may be appropriate for you.

13. Contact information

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