



UNIVERSITY *of* CALIFORNIA • IRVINE

Department of Cognitive Sciences

Graduate Student Handbook
(2007-08)

Table of Contents

1.	Overview	2
2.	Useful Information	3
3.	First-Year Coursework	4
4.	Course Requirements BEFORE Advancing to Candidacy	4
5.	Second-Year Talk	5
6.	Master's Degree	5
7.	Advancing to Candidacy	6
8.	Ph.D. Degree	6
9.	Department Faculty	7
10.	Affiliated Faculty	9
11.	Non-Discrimination Policy	10
12.	Various Things You Should Know	10
13.	Contact Information	11

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.

Where to go with your graduate study questions?

UC Irvine has a number of policies concerning graduate studies. These can be found in the UC Irvine 2007-08 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/07-08Catalogue.pdf>). The Office of Graduate Studies describes Campus-wide graduate program policies in the Catalogue on pages 89-96.

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. In addition to the campus Office of Graduate Studies, the school has its own Graduate Office (<http://www.socsci.uci.edu/gradoffice/>) which manages many important administrative functions concerning graduate study in this department.

The department's Director of Graduate Studies is Professor Geoffrey Iverson. His office is on the third floor of Social Science Plaza A (SSPA) in Room 3129. He can be contacted by e-mail (giverson@uci.edu) or phone (949-824-4053). 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.

Who's in what building?

Each arriving graduate student is assigned a faculty member as their graduate advisor. Department faculty members have their offices in either the Social Science Plaza A (SSPA) or Social Science Plaza B (SSPB) buildings. 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. All incoming graduate students are assigned office space in the large 679 room. Maps of the campus may be found on the web (<http://www.uci.edu/campusmaps.shtml>).

Department administrative offices are located on the third floor of SSPB in rooms 3211, 3215, 3219 & 3221. A few of your first year courses will take place in the Cognitive Sciences Seminar Room, SSPB 3218, just across the hall from these offices.

Where to find information about your courses?

The Course Catalogue provides the official description of the Cognitive Sciences graduate program on pages 466-475. The Department website also describes the program (<http://www.cogsci.uci.edu/gradProgram.php>). The requirements for you as a graduate student matriculating in academic year 2007-08 are stated in the 2007-08 Catalogue, not in catalogues for any other year. The reason is that requirements change from year to year. For instance, the core elective courses Psych 210 - 219 are new for the academic year 2007-08. Four core elective courses are required of you, a newly-matriculating student in 2007-08 but not of students who entered the program earlier.

The normal 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, SSPB, 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.

Scantron Machines: Craig Stone, Instructional Support Center Manager, maintains the School of Social Sciences scantron machines, located next to SSPA 3167, 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.

Mailboxes: Each graduate student has a mailbox located in SSPA room 3151 – the room next to the copy machines. Graduate mailboxes – like the faculty and staff mailboxes – are listed by last name. Please notify the department office if you can't locate yours.

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. 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 (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.

Graduate Liaison: Pernille Hemmer (pheimmer@uci.edu), a student in our graduate program, is the departmental graduate liaison. If you have any issues that you believe should be made known to the department office but feel uncertain about conveying them directly, talk to her. Pernille also helps to arrange graduate student lunches with visiting colloquium speakers and to organize grad students for the late-February visits by potential grad students.

3. First-Year Coursework

You are expected to take certain courses during your first year. They are:

2007-08 Requirements	First Year		
	Fall	Winter	Spring
Colloquium	201A	201B	201C
Proseminar	202A		
Quantitative	203A	203B	203C
Computing	205A	205B	
Elective			

These courses are:

- (1) Psych 201A-B-C (1.3, 1.3, 1.4 units): The Cognitive Sciences Research Seminar. You are expected to enroll in this series during all quarters in residence *prior* to passage of the advancement-to-candidacy examination. This research seminar is known as the "Colloquium" and is held on Mondays at 4:00 pm in SSPA 2112;
- (2) Psych 202A (1 unit): Proseminar. This course will expose you to the work of the department faculty members;
- (3) Psych 203A-B-C* (4, 4, 4 units): Quantitative Research Methods. A sequence that covers the areas of probability, statistics, and experimental design;
- (4) Psych 205A-B (4, 4 units): Computational Research Methods. A sequence that covers programming for experiments and data analysis; and
- (5) Elective(s): Various. You may also choose to take one or more additional elective courses during your first year, particularly if it is immediately relevant to one's research (such as the fMRI series).

Suitable substitutes may be made with written approval of Graduate Director 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 Graduate Director Iverson.*

Be certain to enroll in your graduate courses via WebReg (<http://www.reg.uci.edu/registrar/soc/webreg.html>) **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 BEFORE Advancing to Candidacy

You must take at least seven (7) more courses, beyond those required in the first year, before advancing to candidacy. Four (4) of these must be drawn from the Core Elective module (Psychology 210-219):

- Psych 211 – Attention and Perception
- Psych 212 – Learning, Memory and Knowledge Organization
- Psych 213 – Mind/Body Problem
- Psych 214 – Decision-Making and Problem-Solving
- Psych 215 – Language Sciences
- Psych 216 – Introduction to Cognitive Neuroscience
- Psych 217 – Vision
- Psych 218 – Hearing
- Psych 219 – Cognitive Development

Students must also take at least three (3) more electives that are normally selected from at least two of the following six modules:

210-229	Human Cognition
230-239	Methodologies and Models
240-249	Virtual Reality
250-259	Human Performance
260-269	Cognitive Neuroscience
270-289	Sensation and Perception

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 subsequent years of study, you should consider signing up for Psychology 290 (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 after the first year of study 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 at the Cognitive Sciences Research Seminar (the Colloquium) based on your research project. If you don't know how to use Microsoft PowerPoint, learn it.

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 at the Colloquium, you should write it up *immediately* afterwards. 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 a Masters of Arts in Psychology (like your Ph.D. degree).

Again, coordinate with Graduate Director Iverson and with Graduate Office Manager John Sommerhauser to get your Master's degree application underway when the time comes AND make sure to provide a copy of the signed form to the department office.

7. Advancing to Candidacy

There are three requirements for advancement to candidacy:

1. Meet the requirements listed above for the M.A. degree;
2. Form a five-member faculty committee selected according to Graduate Studies policy (http://www.rgs.uci.edu/grad/students/masters_req.htm).
3. Advance to candidacy by the end of the fall quarter of your third year in the program.

When forming your committee, keep in mind that one of the faculty members must be an external member (i.e., have no formal affiliation with our department).

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).

8. Ph.D. Degree

The requirements for the Ph.D. degree are:

1. 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. Have the proposal approved prior to the final dissertation defense (usually three months before the final defense to provide enough time for candidate to incorporate suggestions and changes required by the committee);
3. Defend the dissertation in a public colloquium (announced with at least one week's notice) prior to the approval of the final dissertation version; and
4. You must have fulfilled all requirements for the Ph.D. degree within three years after advancement to candidacy.

The normal time for advancement to candidacy is three years. The normal 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 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 hearing

Mike Braunstein, Professor Emeritus

Visual perception

Alyssa Brewer, Assistant Professor

Visual neuroscience

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

Geoffrey Iverson, Professor

Mathematical psychology, vision, statistical issues

Mary Louise Kean, Professor

Cognitive neuropsychology, biological foundation of higher mental processes

Michael Lee, Associate 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, speech perception: context effects, cross-linguistic comparisons

Louis Narens, Professor

Measurement, logic, metacognition

Lisa Pearl, Assistant Professor

Linguistics, computational linguistics, language development, language change, Bayesian models

Kourosh 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.

Jon Sprouse, Assistant Professor

Linguistics, syntax, psycholinguistics

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, 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.

An affiliated faculty member cannot serve as an external member of your candidacy committee. Affiliated faculty members include:

Larry Cahill, Associate Professor, 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, Psychology and Social Behavior & Criminology, Law & Society
Human memory, memory and law, jury decision making

Gary Lynch, Professor, 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

David Lyon, Assistant Professor, Anatomy and Neurobiology
Visual cortex, dorsal pathway, pulvinar nucleus, orientation selectivity, optical imaging, rabies virus, single cell electroporation

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

Tugan Muftuler, Assistant Professor in Residence, Radiological Sciences
Magnetic resonance imaging

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

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

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

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

Fan-Gang Zeng, Professor, 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. Various Things You Should Know

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 like 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, bear in mind that “publish or perish” starts now.

Presenting work at a conference will help you gain visibility among potential future employers. The School and the Department can provide some financial support when you present your work at a conference.

The School has a web page which describes sources of funding for graduate students in Cognitive Sciences: <http://www.socsci.uci.edu/gradoffice/gradextras/index.html>). Draw your advisor’s attention to any funding opportunity that you believe may be appropriate for you.

13. Contact Information

Department of Cognitive Sciences

Professor Geoffrey Iverson
Director of Graduate Studies
giverson@uci.edu, x44053, SSPA 3129

Professor Kourosh Saberi
Chair – for Fall Quarter 2007
saberi@uci.edu, x46310, SSPA 4135

Professor Mike D'Zmura
Chair
mdzmura@uci.edu, x42969, SSPB 3219

Clara Schultheiss
Department Manager
clara@uci.edu, x47569, SSPB 3221

Jayne Lee
Administrative Assistant
jayne.lee@uci.edu, x43771, SSPB 3215

Jessica Cañas
Administrative Assistant
jcanas@uci.edu, x46692, SSPB 3211

School of Social Sciences

Professor Linda Cohen
Associate Dean, Graduate Studies and Research
lrcohen@uci.edu, x46680, SSPA 5143

John Sommerhauser
Graduate Office Manager
jdsommer@uci.edu, x44074, SSPA 5149