

Psychology 139A: Cognitive Laboratory  
University of California, Santa Cruz  
Summer 2014

Class Meetings: July 28<sup>th</sup> – August 29<sup>th</sup>, 2014

Times: Tuesdays and Thursdays, 9:00-12:30 pm  
Location: Social Sciences 2, Room 179

Professor: Benjamin C. Storm, Ph.D.

Office Hours: Wednesdays, 9:30-11:00; and by apt.  
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Basic Information:

The course is designed to provide students with a capstone experience in psychological science, with a particular emphasis on research methods in the study of memory and cognition. Students will have the opportunity to develop their critical thinking skills while interacting with psychological concepts, theories, and research findings. They will be given first-hand experience in applying basic research methods in designing research studies, and they will practice effective communication skills while presenting the results of their studies via oral presentations and written research reports. The course will provide students the opportunity to experience what it is like to conduct research in cognitive psychology. It will be particularly valuable to students who may be considering applying to Ph.D. programs, but it will also be useful to students who enjoy learning about cognitive psychology and who want to develop and refine their research skills. Students spend four years learning about psychology. This course is their opportunity to use that knowledge to motivate their own individual study in psychology and to learn more about the importance of the scientific method.

The course is highly work-intensive. Students should expect to work up to 30 hours per week during the 5-week session. First, attendance is mandatory. Second, several homework and reading assignments will be assigned covering issues related to research methods. Third, students will need to find and read numerous articles in the literature relevant to their research proposals. Fourth, students will need to design their studies, prepare all study materials and procedures, and code/analyze data, much of which will need to be done outside of class. Fifth, students will write several papers, including a research proposal (introduction and method section) and a complete APA-style research report as would be prepared for possible publication in a professional journal. These assignments go well beyond the experiences students typically have as undergraduates and will thus require considerable time to be drafted, revised, and completed.

Assigned readings will be made available in class or on e-Commons. Your written assignments must be prepared in APA style. The APA Publication Manual (6<sup>th</sup> edition; 2009) is recommended but not required for purchase.

#### Course Overview:

Weeks 1-3. Through lecture, discussion, and class/homework activities, students will learn about research methods in cognitive psychology. Emphasis will be on issues related to measurement, ethics, and the basic principles of experimental design (e.g., validity and control). Students will also review literature relevant to their individual topics as they continue to develop their research ideas, put together their studies, and write their formal research proposal.

Weeks 4-5. Students will administer their studies with fellow students as participants. Lecture/discussion will focus on issues related to statistics, reporting research results, and giving oral presentations.

Final Class. Students will present the results of their research to the class via powerpoint presentations. Students will be given the opportunity to give each other feedback on their projects as they prepare their final APA-style research report, written as if for possible publication in a professional journal.

#### Sources of Evaluation:

Attendance/Participation (10%). Students are expected to attend every class and actively participate in class discussions. In summer school, missing a day is like missing an entire week, and due to the nature of the course it will be extremely difficult to make-up for what you missed. Students will lose 1% of their total grade for every class they miss (or are late for) without an acceptable excuse.

Class/Homework Assignments (15%). Homework will be assigned throughout the session. Grading will be credit/half-credit/no-credit. Late assignments will be accepted for half credit up until the last day of class.

Multiple-Choice Quiz (10%). Students will be tested on research methods material covered during the first two weeks of class. To be administered on Tuesday, August 12<sup>th</sup>.

Preliminary Proposal (5%). The purpose of this assignment is to get you thinking about a topic for your research proposal. Students will select a topic, review the relevant literature, and develop a specific research question. Due by 9am on Tuesday, August 5<sup>th</sup> (5 pages).

Research Proposal (20%). Each student will write a theoretically-driven empirical research proposal consisting of an introduction and method section. The proposals will be written in APA style and prepared as if being written for a journal article or grant application. A writing guide will be available, and feedback will be provided. Due by 9am on Tuesday, August 12<sup>th</sup> (8-10 pages). Late papers will be accepted, but 25% will be deducted for every day they are late.

Project Presentations (10%). On August 28<sup>th</sup>, students will present their research projects in the form of oral presentations with powerpoint. These presentations are designed to give students the opportunity to present their work and get feedback on their research with the goal of improving the quality of their final research reports.

Final Research Report (30%). Each student will write an APA-style research report as if prepared for possible publication in a professional psychology journal. The paper will include an abstract, introduction, method section, results section, general discussion, and references. Portions of the final research paper will include sections revised from the earlier research proposal (i.e., the introduction and method section), but significant revisions will be expected. Due by midnight on Saturday, August 30<sup>th</sup> (12-15 pages), but you are welcome to turn it in earlier. Late papers will be accepted, but 25% will be deducted for every day they are late.

#### Supplemental Course Readings and Resources:

139A Writing Guide – Instructions for Writing Your Papers!  
APA Guide, 6<sup>th</sup> Edition  
Bem (2002) – Writing the Empirical Journal Article

Frank & Saxe (2012) – Teaching Replication  
Gray & Wegner (2013) – Six Guidelines for Interesting Research  
Greenwald (2012) – There is Nothing So Theoretical as a Good Method  
Hintzman (2011) – Research Strategy in the Study of Memory  
Nesselrode (2011) – Psychologists Doing Empirical Research—Selection at Work!  
Nosek, Spies, & Motyl (2012) – Scientific Utopia (Promoting Truth over Publishability)  
Peterson (2009) – Minimally Sufficient Research  
Roediger (2008) – Relativity of Remembering: Why the Laws of Memory Vanished  
Rosenthal (1994) – Science and Ethics in Conducting, Analyzing, and Reporting Research

#### Additional Information:

Academic Integrity: Scholarship and academic integrity are core values that should guide our conduct and decisions as members of the UCSC community. Plagiarism and cheating contradict these values, and so are very serious academic offenses. Students who plagiarize or cheat on any assignment may be subject to various disciplinary actions including a failing grade on an assignment, failure of the entire course, and possible expulsion from the University. Be sure to follow appropriate citation practices (<http://nettrail.ucsc.edu/ethics/index.html>) and be sure to familiarize yourself with the University's Rules of Conduct (<http://www2.ucsc.edu/judicial/handbook.shtml>).

Students with Disabilities: If you qualify for classroom accommodations because of a disability, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me as soon as possible, preferably within the first week of class. Contact DRC by phone at 831-459-2089 or by email at [drc@ucsc.edu](mailto:drc@ucsc.edu) for more information.