

Psychology 314L (52610) Experimental Research Methods

Fall 2014

Lecture Location: Seeley G. Mudd Building (SGM), Room 226 Days and Time: Monday & Wednesday; 2:00 p.m. to 3:20 p.m.

ALL Labs Location: King Hall, Room 208 Wednesday Lab Time: 12:00 p.m. to 1:50 p.m. Thursday Lab Time: 10:00 a.m. to 11:50 a.m.

Online portion at http://blackboard.usc.edu

Instructor Information

Dr. Clayton L. Stephenson Lecturer <u>clstephe@usc.edu</u> (213) 740-9019

TA Information

Peter Meindl meindl@usc.edu Office Location: SGM, Room 526 Office Hours: Tuesday, Thursday, & Friday 10:00 a.m. – 12:00 p.m.; and by appointment

Syllabus

Course Description

Psychology is a science. Science requires specific methods that tests, supports, or disconfirms hypotheses that lend supporting evidence or no evidence to a theory. Therefore, the course you are about to take is one of the most important courses you will take in psychology. Without rigorous, systematic research methods, much of the theoretical and practical knowledge we have about perception, cognition, attitudes, learning, human development, stereotypes, and many other areas in psychology would not exist. Although this course is not content specific, the knowledge and content of the course can be applied to any content specific course in psychology and neuroscience. You will learn about the philosophy of science, the various types of methods psychologists use, how to conduct an experiment, and write a research paper adhering to the Publication Manual of the American Psychological Association.

Prerequisites

PSYC 100 (Introduction to Psychology) PSYC 274 (Statistics I)

Teaching Objectives

- Provide students with the fundamental knowledge of experimental research methods and design used in psychology.
- Facilitate students understanding for how using valid scientific methods can improve and create knowledge in the field of psychology.
- Guide and mentor students in developing, completing, writing, and presenting a valid and ethical psychology experiment.

Student Learning Objectives

After successfully completing this course, students will be able to . . .

- identify areas in psychology in which they have strong interests.
- describe and discuss the concepts in various psychological research methods and design.
- critically analyze scientific claims made in popular and academic media.
- analyze and interpret quantitative data.
- collaborate and complete psychological research projects with their peers.
- verbally present their research findings in a coherent and concise manner.

Required Texts

American Psychological Association. (2010). *Publication manual of the American psychological association* (6th ed.). Washington, DC: American Psychological Association.

Goodwin, C. J. & Goodwin, K. A. (2013). *Research in psychology: Methods and design* (7th ed.). Hoboken, NJ: John Wiley & Sons, Inc.

Beins, B. C. & Beins, A. M. (2012). *Effective writing in psychology: Papers, posters, and presentations* (2nd ed.). Hoboken, NJ: John Wiley & Sons, Inc.

NOTE: Goodwin & Goodwin textbook is abbreviated as (GOOD) in the schedule. Biens & Beins textbook is abbreviated as (BEINS). The Publication Manual is abbreviated as (APA).

Supplemental Readings. (Various dates). Posted on Blackboard.

NOTE: Texts are available at the bookstore or online.

Assessment	Due Date	Percent of Final Grade: Points
Blackboard CT Assignments	Each Tuesday	15 (individual grade): 10-20
Research Proposal	October 30 th & 31 st at 11:59 p.m.	15 (individual grade): 100
Final Research Paper	December 12th at 11:59 p.m.	25 (individual grade): 100
Research Project Presentation	December 12 th	15 (individual grade): 100
Lab Assignments	Continuous	20 (individual or group): 10-20
Participation = Lecture (5%) +	Continuous	10 (individual or group): 5-20
Lab (5%)		

Blackboard Critical Thinking (CT) Assignments

Each week you will complete a critical thinking assignment that will be posted on Blackboard. The assignments are designed to help you comprehend or apply the material covered for that week. The assignments will also prepare you for lecture-discussion sections on Wednesdays. These assignments are due Tuesdays at 11:59 p.m. *No assignment is due the first week of class*.

Research Proposal & Final Research Paper

You will write a research proposal throughout the first half of the semester and collect data in accordance to your proposal during the second half of the semester. The research proposal is an important process in providing a clear statement of the problem, an argument for the purpose of your study using appropriate sources, how previous studies relate to your study, formal research questions and hypotheses, a full methods section, and a data analysis plan. The final research paper will be the result of your semester's lab work and a demonstration of your ability to apply your knowledge so that you have a real experimental study to report. You will work in groups of three or four to in completing the project, but you will write the proposal and final paper individually. *Please Note: These two papers are 40% of your grade, so be diligent in writing your paper and getting help from me or your lab instructor immediately if you have any problems.*

Research Project Presentation

In place of a final exam, you will present your research study with your group. Presentations are presented in a conference format and must be professional. You may be as creative as you want to be in presenting your study and PowerPoint is *NOT* required. *Please Note: The presentation is 15% of your grade, so you will be held to high expectation and standards.*

Weekly Lab Assignments

The lab assignments are designed for you to acquire the necessary skills, knowledge, and tools to complete your research proposal and final research paper. Labs are also designed for you to acquire, at the minimum, a working knowledge of the process involved in completing an experimental study from start to finish. You will also learn or relearn statistical software, how to read output, and how to use APA format in your papers. Lab assignments for the Wednesday lab are due the following Sunday at 11:59 p.m. unless otherwise noted. Lab assignments for Thursday lab are due the following Monday at 11:59 p.m. unless otherwise noted.

Participation Points (Class & Lab)

Reading the assigned material and completing the assignments before class and lab are important to understanding the lecture topics and to participating in the discussions. Participation will be assessed through in-class exercises, activities, and discussion. Exercises may occasionally be assigned in class in order to help you to understand the course material. Some exercises will be worked on in class while others may be worked on in class and at home. Lab participation will be graded based on the completion of a specific assignment or demonstration that will take place each lab.

EXTRA CREDIT: Participate in Research Studies and Worksheets

Part of understanding the research process is being a participant in a study. You may participate in research studies conducted in the psychology department to earn extra credit. All points will be applied to your Blackboard CT Assignments. You can view and sign up for studies through the SONA system at https://usc.sona-systems.com/. You may complete 10 points of credit on SONA. Half of your points must be completed by participating in lab experiments and *not* survey research. For each study, you will fill out a worksheet about the study. The worksheet will be posted on Blackboard after the third week of class. Please note that your participation in research is voluntary and you have the right to NOT participate in research studies. If you do not want to participate in studies, then you may complete the alternative, which is writing two five page papers on two topics posted on Blackboard.

Grading Scheme

A = 100 - 93.5%; A- = 93.4 - 89.5%; B+ = 89.4 - 86.5%; B = 86.4 - 83.5%; B- = 83.4 - 79.5%; C+ = 79.4 - 76.5%; C = 76.4 - 73.5%; C- = 73.4 - 69.5%; D+ = 69.4 - 66.5%; D = 66.4 - 63.5%; D- = 63.4 - 59.5%; Below 59.5% = F

Statistics Background

All students in this class are required to have achieved a C- grade or better in their Statistics I course. Students should have an introductory level of familiarity with descriptive and inferential statistics, their interpretation, and writing of statistical results. Experimental Research Methods builds heavily upon your background in statistics; students *without* an adequate background in statistics may find this course difficult. We will thoroughly review common statistical methods. You should be able to identify the appropriate statistics for each design type, depending on the scale of measurement used by the researchers. You will be expected to be able to input data into SPSS, run the appropriate statistics, read SPSS output, be able to infer the number of participants in the sample and levels of an independent variable from degrees of freedom. All of these skills will be taught or reviewed in lecture and labs.

Instructor Student Communication and Blackboard

Blackboard (Bb) will be used to post announcements, send e-mails, and post all grades and course materials, so it is the student's responsibility to frequently visit the course on Blackboard (website: http://blackboard.usc.edu). Bb transactions will follow the below guidelines.

- 1) <u>Grades</u>: All grades and points will be posted on Bb one to two weeks after the completion of the exam, assignment, or activity. Grades will not be announced in class, via e-mail, or during office hours.
- 2) <u>Course Materials</u>: The syllabus, lab assignments, and supplemental reading material can be viewed and printed from Bb.
- 3) Announcements: Class announcements will be posted on Bb, as well as broadcasted in class.
- 4) <u>Email</u>: Any email communications from the instructor or TA will be sent via Bb or through the USC's email service. USC requires that all e-mail communication between the instructor and students be sent via an official USC e-mail address. *Any student communication delivered from a non-USC e-mail address will be automatically discarded.*

Tentative Schedule of Topics and Assignments

	Topic	Reading	Deliverables
WEEK 1			
Monday 08/25/2014	Overview of Course	Syllabus	N/A
Wednesday 08/27/2014	Purpose of the CoursePsychological Science as a Career	> None	> None

WEEK 2			
Monday 09/01/2014	Labor DayNo Class!	> None	➤ N/A
Wednesday 09/03/2014	> Scientific Thinking	Chapter 1 (GOOD)	In-class project (cont.)Presentations
WEEK 3			
Monday 09/08/2014	UnderstandingPublishedResearch	> Evans & Rooney (2014)	➤ In-class exercise
Wednesday 09/10/2014	Developing IdeasThe Importance of Writing	 Chapter 3 (GOOD) pp. 73 – 86 Kline (2009) 	> In-class exercise
WEEK 4			
Monday 09/15/2014	Understanding Theories	Chapter 3(GOOD) pp.86 - 110	➤ In-class exercise
Wednesday 09/17/2014	> The Locke 12- Step	Stephenson & Halpern (2011)	In-class exercise and discussion
WEEK 5			
Monday 09/22/2014	Ethics in Psychological Science	Chapter 2 (GOOD) pp. 35 – 40 Ethics documents	> In-class discussion
Wednesday 09/24/2014	➤ Institutional Review Board	Chapter 2 (GOOD) pp.40 − 70	> Lecture- discussion
WEEK 6			
Monday 09/29/2014	ValidityReliabilityMeasurement Scales	Chapter 4 (GOOD) pp. 111 – 126	> In-class exercise
Wednesday 10/01/2014	IntroductoryReview ofStatistics	Chapter 4 (GOOD) pp. 126 – 147	> In-class exercise

WEEK 7			
Monday 10/06/2014	 Essentials of Experiment Research in Psychology Internal & External Validity 	Chapter 5 (GOOD)	> In-class exercise
Wednesday 10/08/2014	Sampling from PopulationsPower Analysis	 Privitera (2014) Denis (2003) pp. 13 -17 	➤ In-class activity
WEEK 8			
Monday 10/13/2014	Between- Subjects Design	Chapter 6 (GOOD) pp.183 – 190;203 – 214	➤ In-class activity
Wednesday 10/15/2014	Within-SubjectsDesign	Chapter 6 (GOOD) pp.191 – 203	In-class exercise and group activity
WEEK 9			
Monday 10/20/2014	Single FactorDesigns with 2Levels	Chapter 7 (GOOD) pp. 215 –226	> In-class exercise
Wednesday 10/22/2014	> Single Factor Designs with 3 or More Levels	➤ Chapter 7 (GOOD) pp. 226 – 250	> In-class exercise
WEEK 10			
Monday 10/27/2014	Factorial Designs (Basic)	Chapter 8 (GOOD) pp. 251 – 270	➤ In-class activity
Wednesday 10/29/2014	Factorial Designs (Varieties)	➤ Chapter 8 (GOOD) pp. 271 – 291	Bring in a FULLDRAFT ofProposal
WEEK 11	_	,	
Monday 11/03/2014 Wednesday 11/05/2014	 False Positive Psychology Power & Value of Replication in Ψ Science Alternatives to NHST Significance, 	 Simmons et al. (2011) Roediger (2012) Denis (2003) Fidler & Cumming 	 In-class exercise In-class exercise
	Effect Size, & Confidence	(2013)	

WEEK 12			
Monday 11/10/2014	 Reporting Results Using Tables and Figures to Display Results 	> Chapter 9 (BEINS)	> In-class exercise
Wednesday 11/12/2014	Correlational Research	Chapter 9 (GOOD)	In-class exercise
WEEK 13			
Monday 11/17/2014	Quasi- Experimental Designs	Chapter 10 (GOOD) pp. 329 – 350	> In-class exercise
Wednesday 11/19/2014	Introduction to PSYC 316LObservation & Surveys	Chapter 11 (GOOD)	> In-class exercise
WEEK 14			
Monday 11/24/2014	> No Class	> N/A	> N/A
Wednesday 11/26/2014	No Class!Thanksgiving Break!	> N/A	> N/A
WEEK 15			
Monday 12/01/2014	AbstractsFine Tuning Your Writing	Chapter 15 (BEINS)	> In-class exercise
Wednesday 12/03/2014	Giving OralPresentations	Chapter 17 (BEINS)Kline (2009)	➤ In-class activity
WEEK 16			
Friday 12/12/2014		sentations: 2:00 p h Paper Due TODA	

Tentative Schedule of Labs

	Topic	Reading	Lab Assignments: Due 11:59 p.m. on Scheduled Day
WEEK 1			
NO LAB			
WEEK 2			
LAB #1	APA FormatMicrosoft WordSPSS	> Chapters 1 (BEINS)	Title PageSPSS Data FileSummary of Interviews
WEEK 3			
Lab #2	Evaluate PostedArticleCreate Groups	Chapter 5 (BEINS)	CompleteEvaluation ofArticle
WEEK 4			
Lab #3	 Finalize Groups Brainstorm Ideas for Final Research Paper Conduct Literature Search for Final Research Paper 	Chapters 2, 3 & 4 (BEINS)	Complete Evaluation of Article
WEEK 5			
Lab #4	Ethics CertificationConduct LiteratureSearch for FinalResearch Project	Article Found in LiteratureSearch	 Ethics Certifications Complete Locke 12-Step on Article
WEEK 6			
Lab #5	 Qualtrics Finalize Topic for Final Research Paper Reference Sections 	Chapters 9 & 14 (BEINS)	Prospectus for Final ProjectReference Section
WEEK 7			
Lab #6	 Qualtrics (Advanced Features) Research Questions & Hypotheses 	Booth et al. (2008)Chapters 6 & 10 (BEINS)	> Introduction Section

WEEK 8			
Lab #7	Design ExperimentDetermineSamplingProcedures	Chapter 11 (BEINS)	> Methods Section
WEEK 9			
Lab #8	 Create Informed Consent Create Debriefing Statement Work on Proposal 	> USC IRB Handbook	 Informed Consent Form Debriefing Statement
WEEK 10			
Lab #9	> Work on Proposal	Chapter 7 (BEINS)	 Research Proposal Due October 30th for Wednesday Lab, October 31st for Thursday Lab
WEEK 11			
Lab #10	 Create Materials Confounds Finalize Design Collect Data? 	Review Chapter Chapter 4 (GOOD) pp. 111 – 126	 Statement about Potential Confounds Affecting Internal & External Validity
WEEK 12			
Lab #11	Collect DataCreate SPSS File	Chapter 8 (BEINS)	> SPSS File
WEEK 13			
Lab #12	 Collect Data Enter Data Begin Analysis if Data Collection Completed 	Chapter 12 (BEINS)	SPSS File with Some Data Entered
WEEK 14			
Lab #13	No Lab!Collect DataThough!	> None	> None
WEEK 15			
Lab #14	AbstractsAnalyze DataWork on Final Paper	Chapter 15 (BEINS)	AbstractSPSS FileCompletedSPSS Output

Statement on Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *SCampus*, the Student Guidebook, (www.usc.edu/scampus or http://scampus.usc.edu) contains the University Student Conduct Code (see University Governance, Section 11.00), while the recommended sanctions are located in Appendix A.

Statement on Plagiarism

Plagiarism, lazy writing, and cheating are violations of the Student Judicial Affairs & Community Standards and may be dealt with by both the instructor and the university. Plagiarism is defined as, "the act of presenting the ideas and writings of another as one's own." Lazy writing is defined as, "using quotes or paragraphs with the proper citation, but are used in a manner that a paper is stitched together and clearly has little or no original writing." Cheating is defined as, "the act of obtaining or attempting to obtain credit for academic work through the use of any dishonest, deceptive, or fraudulent means." In instances of academic dishonesty, the instructor will take appropriate action as outlined in the Academic Integrity Review Process (SJACS 14.10). For more information on avoiding plagiarism or lazy writing, see Chapter 1, Section 1.10 in the APA Publication Manual or visit http://www.usc.edu/student-affairs/student-conduct/ug_plag.htm.

Statement for Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me or to the TA as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. Website and contact information for DSP: http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html; Phone: (213) 740-6948; Fax: (213) 740-8216; email: ability@usc.edu.

Course Notes

- 1) <u>Missed Assignments</u>: Missed assignments cannot be made up and will result in a grade of zero. Students who experience medical emergencies that prevent them from attending class on days when class exercises or assignments are scheduled will be required to provide original documentation from their physicians within one week explaining their absence. *USC athletes should meet with me as soon as possible regarding their scheduled athletic events that may conflict with course requirements*.
- 2) <u>Feedback</u>: Your lab instructor and I will make every attempt to return exams and assignments in a reasonable time by returning them no later than two weeks after the due date.
- 3) <u>Appeal Process</u>: If you find that an answer in an assignment or quiz was incorrect, but you think it is correct, you can appeal the decision in writing. The written appeal must

- have supporting documentation (e.g., reference to a class reading). The appeal cannot be based on your opinion or personal experience, but rather based on the course materials. Appeals must be delivered to the instructor no later than one week after the grade is posted. Appeals will not be accepted via email and no late appeals will be accepted.
- 4) Cell Phone and Electronic Device Policy: Cell phones should be turned off during class. Do NOT leave cell phones on vibrate and do NOT text message during class. Absolutely NO computers may be used during lectures. You may use your computer to view an electronic version of an article during discussions. You must have a note from the Disabilities Services and Programs that states it is necessary for you to use your computer to take notes. Finally, *no* class or lab sessions may be video or audio recorded.
- 5) <u>Course Participation</u>: You are expected to be prepared for class by completing the required readings or exercises BEFORE class, and should be prepared for discussion of the assignments (and participation point questions).
- 6) <u>University Escort Service</u>: If you feel that you would like to be escorted to your vehicle, bus, or campus residence after 5:00 p.m., do not hesitate to call (213) 740-4911.

Special Notes

- 1) This course is challenging and 100% attendance is expected of all students. There are no exams, midterm, or final exam. You will, however, need to dedicate the time that you would typically spend studying for tests to conducting your research and writing high quality papers. As in any course, work of a significantly high caliber in each of the components of this course is considered to be an A (i.e., exceptional work). It is especially important that you be on time for class, have completed your reading assignments prior to class-time, and that you are prepared for discussion of these materials in class.
- 2) All assignments in this course are expected to be word-processed and graphs/tables should be computer-generated.
- 3) All assignments should be completed using APA-style, including the use of a title page. Word processing and data management software are available in several computer labs on campus. You should consult your APA Publication Manual for all writing assignments.
- 4) All students are expected to have access to the student computer network. It is your responsibility to ensure that your access is up-to-date during the semester.
- 5) Tutors are available for this course through the Learning Resource Center (LRC). If you should find that you are not doing as well in this course as you would like, please see me immediately. *I will help you: It is my job!* You can also arrange short-term or long-term tutoring through the LRC. The Writing Center is also available to tutor students who are having difficulty with writing. For assistance, visit their website at http://college.usc.edu/writingcenter/ or call (213) 740-3691.

Emergency Preparedness/Course Continuity in a Crisis

In case of a declared emergency if travel to campus is not feasible, USC executive leadership will announce an electronic way for instructors to teach students in their residence halls or homes using a combination of Blackboard, teleconferencing, and other technologies.

Statement of Course Content as a Copyright

It is important to know that all material presented in class, labs, or discussion sent via email or posted on Blackboard is "all rights reserved" by the course instructor. In addition, some of it is copyrighted and distributed by a publishing corporation for in-class use only. You may not store, post, or distribute any course materials—on paper or electronically--for use by any student not presently enrolled in this course. Out of fairness to all current and future students, please do your part to protect our course content.

Syllabus as a Contract

The purpose of this syllabus is to provide a contract between the instructor and the student. By enrolling in this class, you agree that you have read, understand, and will adhere to the syllabus guidelines and complete the assignments given in the class. I reserve the right to change the schedule of topics and readings and I will give notice to you of such changes well in advance of those changes.

