

Joint Course, Psych 111A and 112A: Experimental psychology

Prof. George Sperling

Psych 111A (68201) & Psych 112A (068210)

Fall, 2017. SSL 290. Tu, Th 11:00-12:20

Class website: www.socsci.uci.edu/HIPLab/ExptlPsych/

SYLLABUS

REQUIRED TEXTBOOKS:

Authors: C. James Goodwin and Kerri A. Goodwin. (2013).

Title: Research in Psychology: Methods and Design, 7th edition. *** 7th not 8th edition ***

Publisher: Wiley. Hoboken, NJ.

ISBN-13: 978-1118360026 ISBN-10: 1118360028

Authors: L. A. Kirkpatrick and B. C. Feeney (2015).

Title: SPSS Statistics for versions 23.0. 14th Edition.

Publisher: Cengage Learning, Boston, MA.

ISBN-13: 978-1305877719. ISBN-10: 1305877713

Recommended textbook:

Author:

Title: Publication Manual of the American Psychological Association, 6th edition (2009).

Publisher: American Psychological Society, Washington, D.C.

ISBN-13: 978-1433805615. ISBN-10: 1433950618

**** This course is a work in progress, material will be posted week-by-week ****

Lecture 1. Introduction to Weber's Law, Logarithms, need for theory (20x20 pixels)

Logarithm HW problems assigned

Reading: G&G, Chapter 1

Student file: L1_1-26.pdf

Lecture 2. Methods of acquiring knowledge, scientific thinking.

"System" defined, currency conversion, relation to elaborated Weber Law.

Reading: G&G, Chapter 1 cont'd.

HW 1 due.

Student file: L2_29-81.pdf

Lab 1. Discussion section

Lecture 3. More about introspection, Watson behaviorism, the trend from simple

stimulus with complex response to complex stimuli, simple response,

overview of methodological changes last 150 years. Thresholds,

Psychophysical methods, Weber-Fechner-Stevens; Scales of measurement

Reading: G&G Chapter 2. Ethics

Reading: G&G Chapter 4, Pp. 122-126. Scales of Measurement.

Reading: Goldstein1, Pp. 5-30

Student file: L2+3_1-23.pdf

Lecture 4. What is a model, expected value, adding random numbers, noise

reduction, Central Limit Theorem, adding means, variances, T-tests, ANOVA

Statistical significance, meaning...lottery

Reading: G&G, Chapter 3 Developing Ideas for Research

Reading: Type 1 and Type 2 Expts (2pp)

Student file: 2017psych112aweek2_L4+5_gs.pdf Slides 1-36

Lab 2. Discussion section + start Exp. 1, measure Weber fraction

Lecture 5. Review statistical significance, theory of ANOVA and how it applies to Weber lab experiment; Ethics chapter partial review

Reading: Null hypothesis and replicability (2pp)

Reading: Review: G&G Chapter 2. Ethics

Reading for Lab: G&G: In Chapter 7 Experimental Design 1: Single-Factor Designs, read the subsection "Single Factor--More Than Two Levels" Pp. 226-250.

Student file: 2017psych112aweek2_L4+5_gs.pdf Complete

Lecture 6. IRB consent form. Milgram, Harrah ethics, How to write a lab report;

Reading: G&G: Review Chapter 3, Developing Ideas for Research.

Reading: Consent Forms + Protocol Narrative

Lab 3. Discussion section + complete Weber data collection and analysis.

Lecture 7. Turing test, Psych in 2050; Wundt 1912, Miller 1956 + Information Theory (Shannon), Zhang+Luck 2011

Reading: Wundt, Miller, Zhang+Luck

Lecture 8. Short quiz on Wundt, Miller, Zhang+Luck; continue working memory, Zhang+Luck. Counter-balancing abba, Latin Square. Start Sternberg (Science, 1966).

Reading: G&G Controlling Order Effects, Pp. 194-199

Reading: Sternberg1, Science 1966

Lab 4. Discussion section + draft of lab report in APA style. Midterm prep.

Lecture 9. Sternberg, stage model of reaction time, additive factors;

Briefly start: Posner style RT attention experiment: go/no-go RT

Reading: Sternberg1 (Science, 1966, 2 1/2 pp), Sternberg2 (AmerSci 1969, just Pp. 421-438/457).

Reading for L9+L10: Shulman et al (1979), Sperling, Attention review chapter, Sections 1.5-1.6 (Pp. 17-22)

Lecture 10. Midterm

Lab 5. Discussion section + Lab report in APA style. Digit span expt.

Lecture 11. Conclude Sternberg; start the dice problem. Assign dice HW in class, break up dice problem into two problems. Shulman, Remington & McLean plus Computational analysis of Shulman et al. in attention review chapter.

Lecture 12. Conclude Shulman et al, Sperling attn separability (space, time) classroom example esp for utility contours, divided attention experiments, contingency analysis, attention operating characteristics.

Reading: Sperling and Doshier, Wiley Handbook selections

Reading: Sperling, Attention review chapter, Sections 1.9-2.0 (Pp. 28-33)

Lab 6. Discussion section + Draft Digit span lab report

Lecture 13. Conclude dice problem; computing a performance operating characteristic (mirror-image Receiver Operating Characteristic, ROC), iso-utility contours, applications to economics.

Reading: The above, plus Green and Swets, Signal Detection Theory.

Lecture 14. Great experiments in psychology: Learning

Reading: Mook: Great Experiments: #19-24

Lab 7. Discussion section + Lab report APA style Digit span expt

Lecture 15. Great experiments in psychology: Learning, contd. Mook 29-33

Lecture 16. Confidence ratings, F-test, recognition memory

Lab 8. Discussion section Practical problem discussions

Lecture 17. Midterm 2

Lecture 18. Recognition, recall, and search procedures

Lab 9. Discussion section Practical problem discussions 2

Lecture 19.

Lecture 20.

Lab 10. Discussion section

Final Exam

Dec 12, 10:30-12:30

2017 Sep 28 (Thu) 11:00a SSL-290/H111A/112A L1

2017 Oct 3 (Tue) 11:00a SSL-290/H111A/112A L2

2017 Oct 5 (Thu) 11:00a SSL-290/H111A/112A L3

2017 Oct 10 (Tue) 11:00a SSL-290/H111A/112A L4

2017 Oct 12 (Thu) 11:00a SSL-290/H111A/112A L5

2017 Oct 17 (Tue) 11:00a SSL-290/H111A/112A L6

2017 Oct 19 (Thu) 11:00a SSL-290/H111A/112A L7

2017 Oct 24 (Tue) 11:00a SSL-290/H111A/112A L8

2017 Oct 26 (Thu) 11:00a SSL-290/H111A/112A L9

2017 Oct 31 (Tue) 11:00a SSL-290/H111A/112A L10

2017 Nov 2 (Thu) 11:00a SSL-290/H111A/112A L11

2017 Nov 7 (Tue) 11:00a SSL-290/H111A/112A L12

2017 Nov 9 (Thu) 11:00a SSL-290/H111A/112A L13

2017 Nov 14 (Tue) 11:00a SSL-290/H111A/112A L14

2017 Nov 16 (Thu) 11:00a SSL-290/H111A/112A L15

2017 Nov 21 (Tue) 11:00a SSL-290/H111A/112A L16

2017 Nov 23 (Thu) 11:00a SSL-290/H111A/112A HOLIDAY

2017 Nov 28 (Tue) 11:00a SSL-290/H111A/112A L17

2017 Nov 30 (Thu) 11:00a SSL-290/H111A/112A L18

2017 Dec 5 (Tue) 11:00a SSL-290/H111A/112A L19

2017 Dec 7 (Thu) 11:00a SSL-290/H111A/112A L20