

Experimental Design and Quantitative Analysis

Psyc209/609 Fall 2007

Dr. Janet B. Ruscher

<http://www.tulane.edu/~PsycStat/ruscher/psyc212.html>

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Text

Howell, D. C. (2006). Statistical methods for psychology (6th edition). USA: Thomson Wadsworth
note: 5th edition is fine

Course Objectives

Understanding experimental design and statistical analysis is fundamental to psychology, whether students' ultimate goals are in applied psychology (e.g., clinical, industrial), basic psychological research (e.g., social, developmental), or in related fields (e.g., social work, physical therapy). Psyc209/609 prepares students to 1) better comprehend results presented in journal articles and research reports, 2) conduct statistical analyses for methodology courses as well as independent research, honors theses, masters theses and dissertations, and 3) to think critically about studies reported in the media or at work.

Approximate Date	Topic	Readings in Howell
August 30 – Sept 6	Descriptive Statistics	Ch. 1, 2.0-2.2, 2.5, 2.7-2.9
September 11	The normal distribution	Ch. 3
September 13	Hypothesis Testing and Chi-square	Ch. 4, 6.0-6.4, 7.0-7.3
September 18	One-way ANOVA	11.0-11.4, 8.4-8.7
September 20- September 27	Tests subsequent to ANOVA	12.0-12.9
October 2-4	Two-way ANOVA	13.0 -13.4
October 9	Exam 1 (through One-way ANOVA)	
October 18-25	Repeated Measures Designs	11.11, 14.0 – 14.2, 14.7
October 30 – November 1	Simple Correlation and Regression	Ch. 9
November 6	Exam 2 (through SxA ANOVA)	
November 8-13	Simple regression continued	
November 15-29	Multiple Regression	15.0-15.5, 15.10-15.12
December 4	Exam 3 (through Multiple Regression)	
December 6	Review for Cumulative Final Exam	
December 15	CUMULATIVE FINAL EXAM 9:30am-12:00pm	

Grade Scale / Letter grade equivalents to z-scores (z-scores are standardized scores; you will learn about them very early in the semester)

A	+1.1 or above	B	+ .20 to +.49	C	-.66 to -.34	D	-1.66 to -1.34
A-	+.8 to 1.09	B-	+.00 to +.19	C-	-1.00 to -.67	D-	-2.00 to -1.67
B+	+.50 to +.79	C+	-.33 to -.01	D+	-1.33 to -1.01	F	-2.01 or lower

Course Policies and Procedures

Evaluation

Examinations. Three noncumulative exams and a cumulative final exam will be given on the dates and times scheduled on the syllabus. Each exam will contribute 30% to the final course grade. The lowest of these four grades will be dropped.

1. Calculators neither are needed nor permitted for examinations (although one is necessary for completion of laboratory assignments).
2. **No "make up exams" will be given.** If you miss an exam (due to such factors as personal emergency, illness, death of a loved one, a delayed flight, an aberrant mongoose attack, oversleeping, athletic event, imprisonment, university-sponsored event) that will be the exam that you drop. **Exams will be given only at the times scheduled. No exceptions. No kidding.** These policies apply to the noncumulative exams as well as to the final exam.
3. Completing at least 3 exams and at least 9 labs are minimum criteria for passing the course.
4. No student may begin the exam late if another student has exited the exam; students who enter the exam room late will be required to finish the exam at the scheduled end-time.

Lesson: Be on time. Buy an extra, preferably battery-operated, alarm clock.

Laboratory. Failure in lab results in **failure for the entire course**. Completion of at least 9 of the 10 labs is required. Assuming successful completion of at least 9 labs, the remaining 10% of the final grade derives from performance in lab. Detail appears on the lab syllabus. Please read it with care.

Technology Issues

WWW Use:

Important announcements from class will be posted on the Website. If you miss class or arrive late, you are advised to consult the Announcements page. **The instructor will not provide notes or slides to students who miss lecture, nor will these notes be posted on the website.** If you miss class, please obtain notes from a classmate.

The course website includes links to on-line practice problems and former exam items. It also includes a link to handouts on: choosing orthogonal coefficients, distinguishing among various tests subsequent to ANOVA, identifying which ANOVA is appropriate, an exam review guideline, and formulae. This set of handouts is in .pdf format; you are encouraged to print a hard copy for your personal use.

Psyc209/609 uses *Blackboard*, a secure website, to post grade information. Unless you request explicitly **in writing** not to post your information, it will be posted. You should log onto *Blackboard* at the earliest opportunity to become comfortable with it, and solicit help from your TA if needed. *Blackboard* access is automatic if you are in the system already and/or have a Tulane email address. If you are not in the system or have difficulty logging on, please contact the ILC Help Desk at 862-8888.

CellPhones:

Please turn off your cell phones and beepers. If you anticipate an emergency (e.g., you belong to the TEMS unit), please set them to vibrate or some other silent signal. During examinations, you should allow your voice mail to answer for you and **turn your phone off**.

Electronic Mail:

For security reasons, I do not send grades via electronic mail nor will I discuss grades over the telephone. Please do not ask.

Please email me to make appointments if you have questions. Most topics in this class are best explained in face-to-face conversation. Please understand when I decline requests for me to type out definitions over email; such information should be in your book and notes.

Grading Policies and Procedures

Exam Grading. For the noncumulative exams, each student's answer to each particular question is evaluated by a single grader (e.g., I might grade question #10 for everyone; a particular TA might grade question #2 for everyone). This procedure helps ensure consistency across students, which is especially important when using standardized scores. Under normal circumstances, exams will be returned at the next class period, and the correct responses will be discussed. Material from the noncumulative exams will resurface on the cumulative final, so your presence is important.

In the unlikely event that you wish to appeal the grading of an exam question, please address the person who graded that question **within 5 working days** of the day that the exam is **returned in class**. The appeal should be made in person, and you should bring your exam with you. With the exception of correcting clerical errors, appeals made after that time **will not be considered**. If the question was graded by me, please make an appointment to see me in my office **in private** within that timeframe. **I will not** discuss grades in the classroom or hallways among bustling hosts of people.

The z-score distributions for each exam are computed using only the scores of students enrolled in Psyc209 (i.e., not the graduate students enrolled in Psyc609). Consequently and appropriately, the undergraduate students are not graded relative to graduate students; the scores of 609 students will be entered after z-score distribution from Psyc209 students is set.

Labs and the TAs. The TAs will assign grades for labs, and submit grades and attendance records periodically to me so that I can observe progress throughout the term. These grades are final. Please do not ask to "re-do" a lab for a better grade.

The TAs teach lab weekly, and are available for questions immediately following lab. The TAs can be an invaluable resource to you, and you should take advantage of what they uniquely can offer. However, please understand that if you regularly forgo attending lab, the TAs are unlikely to be thrilled by requests for private instruction, midnight emails, and desire for extra help the day before an exam.

Extra Credit. On occasion, Psyc209 students may be offered the opportunity to participate in research studies in exchange for extra credit. In that event, non-research alternatives also will be provided by the researchers toward the latter part of the term. Students may receive credit for no more than two of these opportunities, which each add .03 to the final z-score average. All extra credit must be earned by the last day of classes, and you should check blackboard shortly thereafter to be certain your extra credit was recorded. Please do not ask about "extra credit" after that time. Psyc609 students are not eligible for extra credit opportunities.

Tutors. On occasion, the ERC has a statistics tutor who previously took Psyc209 (My understanding is that most ERC stat tutors are hired for Math111). Due to potential conflict of interest, the teaching assistants currently assigned to this course cannot provide paid private tutoring. With few exceptions, all psychology doctoral students enroll in Psyc209/609 as a refresher course, and therefore are familiar with the material. Your TA may be able to recommend an appropriate tutor from among the other doctoral students who can be hired as tutors.

Special Needs. Please bring any authorized accommodations from the ERC to my attention during the first week of class. If your accommodation includes taking exams in the ERC (e.g., extended time; distraction-reduced environment), please bring the "blue sheet" with you so that reservations can be made for all exams (including the final). Space for final exam especially is limited, so early planning is to your advantage. At a minimum, the "blue sheet" should be completed 7 days prior to the first exam and 14 days prior to the final. Consistent with ERC policy, **accommodations do not apply retroactively**. Unless approved by the ERC and cleared with the instructor, audio- or video-recording of lecture is prohibited.

University-sponsored Events. My policy of dropping the lowest exam grade includes situations in which students miss an exam for a university-sponsored event, including recruiting, athletics, and professional conferences. If you miss an exam, that is the one that you drop. No make-ups will be given. If more than one exam will be missed or laboratory sessions will be missed due to a university-sponsored event, you should present me with a schedule for the **entire semester** and set a meeting with me to discuss the situation.

NOTE: Academic dishonesty is not tolerated in this class. If you have doubt about what constitutes a breach of the honor code, please consult the University's policy and procedures on academic integrity <http://college.tulane.edu/honorcode.htm>

Students enrolled in Psyc609: Please review the supplemental syllabus on your blackboard site
Students enrolled in Psyc209H: Please see me for the supplemental syllabus