

ELEMENTARY STATISTICS IN PSYCHOLOGY
PSYCHOLOGY 311 FALL 2007
TODD 420
M, W, F 12:10-1PM

Instructor: Aaron Wirick
Office: Johnson Tower 307
Office Hours: M 1-2pm, R 1-2PM
Email: awirick@wsu.edu
Textbooks: Gravetter & Wallnau (2006) Statistics for the behavioral sciences (7th ed.)
(required)

Course Objectives & Requirements

Psychology 311 is designed to introduce you to the way statistics are used to analyze data and reach conclusions in scientific studies in psychology and other related disciplines. We will start with the very basics of statistics by discussing concepts such as variability, central tendency and probability. We will then move into hypothesis testing and basic inferential statistics such as the t-test. Toward the end of the semester we will discuss more advanced types of research designs and statistical analyses.

Using statistics requires both the ability to properly apply statistical concepts and the ability to properly calculate numeric values from formulas. Our class is not strictly a math class, but that doesn't mean we won't be doing a lot of math! By calculating the statistics by hand, you will gain a better understanding of how statistics work (and probably a healthy appreciation for the modern computer). That said, you will need a calculator that performs basic numerical operations, including exponent and square root functions.

Class Expectations: You are expected to arrive to **EVERY** class prepared and on time. This includes reading any assigned materials **BEFORE** class and actively participating during class discussion. **You will be held responsible for all materials covered in both the class lecture and in assigned readings from the textbook.** If you miss class, you are still responsible for any announcements made including changes in the course schedule, assignments, etc. Missing class also does not exempt you from the material covered that day so you will need to get notes from a classmate. I strongly encourage you to ask questions during lecture or see me in my office if any material is unclear and you need further clarification. I expect all students to be considerate of others and avoid interrupting the class by arriving late, leaving class early or talking during lecture.

Exams: There will be three regular in-class exams given during the semester with each exam worth 35 points. A non-comprehensive final exam worth 45 pts will be given as well. Exams will consist of materials discussed in the assigned readings from the textbook as well as materials from class lecture. Each exam date is given in the attached course schedule.

Makeup exams: If you must miss a regularly scheduled exam due to illness, or because you are participating in a University sanctioned event, I will provide you with a make-up exam. In fairness to all students, excuses must be documented in writing and the exam must be taken within one week of the original exam. For an anticipated absence you **must contact me BEFORE the exam**. Failure to do so may forfeit your opportunity to take the make-up. In the event of illness, please contact me as soon as practical. If there are other extraordinary life events that interfere with your ability to take an exam, please contact me immediately so that we may discuss appropriate options. For the final exam, there will be no makeups or alternative test times as per University policy.

Labs: There are eight required computer laboratory exercises. All labs meet in Johnson Tower 224. There are five sections for this class and your scheduled lab time depends on which section you signed up for. Labs are completed in three week intervals with two labs per interval. You will be evaluated on each laboratory exercise for mastery of concepts and skills. Successful completion of each lab is worth 4 points (except labs 1 & 3, which are only worth 3 points). Labs are graded on an all or nothing basis with either full or no credit given.

The lab schedule is as follows:

Week of Aug. 27: Lab 1 - SPSS basics & Lab 2 - Data description and graphic analysis

Week of Sep 3: NO LAB (Labor Day)

Week of Sep 10: Lab 1 & 2 continued

Week of Sep 17: Final day for Lab 1 & 2

Week of Sep 24: Lab 3 - Distributions & Lab 4 - Sampling and the CTL

Week of Oct 1: Lab 3 & 4 continued

Week of Oct 8: Final day for Lab 3 & 4

Week of Oct 15: Lab 5 - The t test & Lab 6 - Statistical power

Week of Oct 22: Lab 5 & 6 continued

Week of Oct 29: Final day for Lab 5 & 6

Week of Nov 5: Lab 7 - Analysis of variance & Lab 8 – Correlation

Week of Nov 12: NO LAB (Veteran's Day)

Week of Nov 19: NO LAB (Thanksgiving)

Week of Nov 26: Lab 7 & 8 continued

Week of Dec 3: Final day for Lab 7 & 8

Homework: There will be 10 take home assignments during the semester that you will be asked to complete. Each will be worth 4 points. Guidelines and due dates will be given during lecture. Assignments must be turned in during class and you must be present to turn them in. Late assignments will be marked off 2 points and must be turned in no later than two class days after the due date.

Article Assignments: There will be two journal article assignments during the semester. One at the beginning which will be worth 10 points and one at the end of the semester that will be worth 40 points. I will give you more information on this during lecture.

Extra Credit: Extra credit is earned by completing additional research hours or through completion of extra-credit papers. Each additional hour of research participation will earn the student 2 extra credit points up to a maximum of three additional hours. As an alternative, students can complete an article critique to replace the research extra credit (1 article = 2 points). I may offer other forms of extra credit in class during the semester.

Cheating: Any form of cheating is not allowed. Any student caught cheating will receive a score of **zero** for that exam or assignment. Repeat offenders will be failed and referred to the Office of Student Affairs.

Attention Students with Disabilities: Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the Disability Resource Center (DRC). All accommodations **MUST** be approved through the DRC (Admin Annex Bldg, Room 205). Please stop by or call 509-335-3417 to make an appointment with a disability specialist.

Grading: Final grades for the course are calculated on a 300 point scale. Only **whole letter** grades will be issued. If you have questions about your grade you can stop by my office during office hours or schedule an appointment. Students have one week after grades have been posted to dispute content of items on an exam. After this week, grade changes will only be allowed for calculation errors.

EXAMS: 3 x 40 pts each = 120 pts
FINAL EXAM: 50 pts
LABS: 30 pts
JOURNAL ASSIGNMENTS: 50 pts
HOMEWORK: 50 pts
Total Points: 300

Grading Scale (in pts)

A: 270-300	D: 180-209
B: 240-269	F: 000-179
C: 210-239	

Course Schedule

Week	Date	Class Topic	Reading Chs./HW
1	M 8/20	Introduction / Course Overview	Ch. 1
	W 8/22	Variables & Measurement Scales	Ch. 1
	F 8/24	NO CLASS – Work Day	---
2	M 8/27	Frequencies, Percentiles & Ranks	Ch. 2/Article #1 Due
	W 8/29	Frequencies, Percentiles & Ranks	Ch. 2
	F 8/31	Measures of Central Tendency	Ch. 3/HW 1 Due
3	M 9/3	NO CLASS – Labor Day	---
	W 9/5	Measures of Central Tendency	Ch. 3
	F 9/7	Measures of Variability	Ch. 4
4	M 9/10	Measures of Variability	Ch. 4
	W 9/12	Exam 1	Chs. 1-4/HW 2 Due
	F 9/14	Standardized Distributions	Ch. 5
5	M 9/17	Standardized Distributions	Ch. 5
	W 9/19	Probability of Normal Distributions	Ch. 6
	F 9/21	Probability of Binomial Distributions	Ch. 6
6	M 9/24	Probability of Scores & Samples	Ch. 7
	W 9/26	Sampling Distributions	Ch. 7/HW 3 Due
	F 9/28	Concepts of Hypothesis Testing	Ch. 8
7	M 10/1	Hypothesis Testing Criteria	Ch. 8
	W 10/3	Exam 2	Chs. 5-8/HW 4 Due
	F 10/5	Hypothesis Testing with the t Test	Ch. 9
8	M 10/8	Single Sample t Test	Ch. 9
	W 10/10	Independent Measures t Test	Ch. 10
	F 10/12	Independent Measures t Test	Ch. 10
9	M 10/15	Repeated Measures t Test	Ch. 11/HW 5 Due
	W 10/17	Repeated t	Ch.11
	F 10/19	Estimation & Hypothesis Testing	Ch. 12
10	M 10/22	Estimation & Hypothesis Testing	Ch. 12
	W 10/24	Hypothesis Testing	Ch. 12
	F 10/26	Exam 3	Chs. 9-12/HW 6 Due
11	M 10/29	Analysis of Variance	Ch. 13
	W 10/31	Independent Measures ANOVA	Ch. 13
	F 11/2	Independent Measures ANOVA	Ch. 13
12	M 11/5	Repeated Measures ANOVA	Ch. 14/HW 7 Due
	W 11/7	Repeated Measures ANOVA	Ch. 14
	F 11/9	Two-Way ANOVA	Ch. 15/HW 8 Due
13	M 11/12	NO CLASS – Veteran's Day	---
	W 11/14	Correlation	Ch. 16
	F 11/16	Correlation	Ch. 16
14	M 11/19 – F 11/23	NO CLASS -Thanksgiving Break	---
15	M 11/26	Simple Regression	Ch. 17/HW 9 Due
	W 11/28	Simple Regression	Ch. 17
	F 11/30	Multiple Regression	Ch. 17
16	M 12/3	Chi-Square	Ch. 18/HW 10 Due
	W 12/5	Chi-Square	Ch. 18
	F 12/7	Exam Review	Article #2 Due
	T 12/11	FINAL EXAM @ 1PM	Chs. 13-18