

Psychology 302 – Statistical Methods in Psychology

Winter 2012

Lecture are held Tuesdays & Thursdays at 8:30-9:50 in 302 Gerlinger

Instructor:

Carly Smith

Email: carlys@uoregon.edu

Office: Straub 498

Office Hours: Tuesday 10-12 or by appointment

Labs are held Thursday 10-11:20, 12-1:20, 2-3:20 and 4-5:20 in 180 Straub

Lab Instructors:

Shannon Peake (10-11:20 & 12-1:20 labs)

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Office: Straub 491

Office Hours: ***

Bill Schumacher (2-3:20 & 4-5:20 labs)

wms@uoregon.edu

Straub 320

OVERVIEW OF COURSE

Course Objectives: At the end of this course you will be able to read a description of a research study and then identify the appropriate statistical technique needed to answer the research question. You will be able to identify problems and issues with data sets through exploratory data analysis. You will be able to describe and evaluate data using summary statistics. You will be able to use inferential tests and measures of effect size (both computing by hand and using statistical software) to answer research questions and draw conclusions (written in APA style) based on your analyses. Using the knowledge you gain here, you should be better equipped to evaluate statistical information reported in popular media as well as in primary research articles.

Course Description: This class both is and is not really a math class. Although you will be learning how to do statistical calculations by hand, this course is very different from courses taught in mathematics departments. The focus in this class is on a conceptual understanding of statistics and the application thereof to psychological science. In the past, most students have found that the actual “number crunching” in this class is relatively easy. It is this conceptual understanding of statistical techniques that is emphasized even when it comes to actual formulas. Once you understand the concepts, you will probably have little trouble doing calculations.

COURSE REQUIREMENTS

Participation via iClickers: Participation includes in-class activities designed to increase understanding of concepts introduced in reading, topics discussed that day and reviewing previous concepts. There will likely be several of these in most lectures. Participation points will not be based on whether you got the right answer, but only on whether you tried. To allow for technical glitches, bathroom breaks, daydreaming, etc., participation credit for a day will allow for missing one of the day's clicker questions. There is no opportunity to make-up these points if you are absent or forget your clicker. **Instructions for registering your clickers for this course are on blackboard. See "Grading" section for more information.**

Reading assignments: Once we cover the foundations of statistics, we will begin to learn inferential

tests. Each test has a formula and rules for interpretation. Each week beginning in week three, there will be one assignment covering any new test/s covered that will be turned in at the start of lecture. **Please put your name AND your lab instructor's name on these assignments.** These activities will be graded as completed/incomplete and must be completed independently. They also count as 'notes' available for use on the exams. See "*Grading*" section for more information.

Weekly Blackboard Quizzes: Each week following lecture on Thursday, a short quiz covering the material from the week will become available on blackboard and must be completed by the following Monday at 12pm. These quizzes are not graded for correctness but completion and are meant for you to keep track of your understanding of the material as we progress. See "*Grading*" section for more information.

Homework: Homework assignments are due **by 5pm on Friday by email to your lab instructor (see contact information on page 1)**. Some problems will be completed by hand, some using SPSS, and some using both methods. **Turn homework in on time - Late Homework Policy: 20% deduction for 1 day late, 50% for 2 days late, not accepted 3 or more days late.** Scheduling and content of homework are subject to change at the discretion of the instructors. See "*Grading*" section for more information.

Discussing homework with other students and your instructors is encouraged. However, each student must submit a separate homework, *written independently* (no photocopies, printing out multiple copies of SPSS output, or word-for-word copying), and you must show your work for all by hand calculations. More explicitly, you may work together to solve problems and check your answers on homework with each other, but preparing those answers for your homework and the actual writing of **any** answers need to be done independently. It is at the lab instructors' discretion to penalize outright copying.

Exams: There will be two **non-cumulative in-class exams** and one **cumulative final exam** given during the final exam period, **Tuesday, March 20 from 8-10am**. These exams will be open-book, open-note and open-reading assignment. See "*Grading*" section for more information.

Books & Materials: The required text is by Nolan and Heinzen (2011), *Essentials of Statistics for the Behavioral Sciences*. This book has a website that is free to use and the link is posted on the blackboard site. It is free to register and includes chapter outlines, flashcards and practice quizzes. Read assigned material **before** class. This course utilizes iClickers for in-class participation. Clickers used for previous courses will work. You will also need a hand-held calculator, nothing fancy (i.e., graphing capabilities) necessary. **Bring book and all materials to lecture (no need for clickers in lab).**

SPECIAL NEEDS

Students with Disabilities: If you have a documented disability and may need accommodations, contact me ASAP. Please let me know in advance even if you are not sure that your disability will require accommodation (for example, if you have a physical disability that may require you to miss class, but you aren't sure it will). Students who are experiencing learning difficulties are encouraged to consult Disabilities Services (164 Oregon Hall; 541-346-1155; disabsrv@uoregon.edu; <http://ds.uoregon.edu/>). Without documentation, accommodations are not guaranteed and are to be made at the discretion of the instructor.

Student Athletes: You must let me know during the first week of classes if you will miss class due to

travel with a UO athletic team and require accommodation. Requirements for the course will still be the same, however minor scheduling accommodations may be made (e.g., taking a quiz a few hours early) if planned well ahead of time.

Other Students: If you are repeating this class, or have other circumstances that might affect your ability to devote time to the class, please let me know so I can discuss strategies to promote your success in this course.

GRADING

Final course grades are based on the following:

5% Participation in in-class exercises via iClicker

5% Reading activities

5% BB Quizzes

30% 9 homework assignments

30% 2 exams (10% for Exam 1, 20% Exam 2)

25% Final exam

Final grades will be based on the above weighted percentages of total possible points earned and assigned letter grades as follows:

Course grades based on percentage of points			
	Percent		Percent
A	93-100	C-	70-72.9
A-	90-92.9	D+	67-69.9
B+	87-89.9	D	63-66.9
B	83-86.9	D-	60-62.9
B-	80-82.9	If taking Pass/Fail	
C+	77-79.9	NP	< 70
C	73-76.9	P	70

Curves and grade adjustments: At my discretion, I may apply a curve to final grades. I will only curve upwards; that is, I will never curve in a way that lowers the class average. This is the only technical *curving* I plan to do in the course. That being said, this term uses a new textbook and corresponding quizzes. It is possible that we will find poorly constructed quiz questions that become apparent only after quizzes are given. In this case quiz scores will be adjusted in a way that compensates for poor questions.

The final exam period for this class will be on Tuesday, March 20 from 8-10am

COURSE SCHEDULE FOR TUES/THURS. LECTURE AND FRIDAY HOMEWORK

Calendar Key: Read, *Turn in*, EXAM

January

Tuesday - Lecture	Thursday - Lecture & Lab	Friday - Homework
10	12	13
Introduction	Lab 1: Frequency Dist. & Graphs BB quiz 1 opens	<i>Homework 1 - Ch. 1 - 3</i>
17	19	20
Read: Ch. 4 - Central Tend. & Ch. 5 - Sampling	Lab 2: Central Tendency, Sampling activity BB quiz 2 opens	<i>Homework 2 - Ch. 4 & 5</i>
24	26	(Jan 28)
EXAM 1 (Ch. 1-5)	Read: Ch. 6 - z-scores & Dist. of means <i>Reading Assignment 1</i> Lab 3: z-scores and percentiles BB quiz 3 opens	<i>Homework 3 - Ch. 6</i> <i>***Due Saturday, Jan. 28 at 5pm***</i>
31	Feb. 2	Feb. 3
Read: Ch. 7 - Z-test, p. 176-186 - CI & Effect size <i>Reading Assignment 2</i>	Lab 4: z-test and CI/ES activities BB quiz 4 opens	<i>Homework 4 - Ch. 7 & 8</i>

February

Tuesday - Lecture	Thursday - Lecture & Lab	Friday - Homework
7	9	10
Read: Ch. 9 - 1ST & Paired T	Lab 5: 1ST & Paired T BB quiz 5 opens	<i>Homework 5 - Ch. 9</i>
14	16	17
Read: Ch. 10 - IST <i>Reading Assignment 3</i>	Lab 6: IST BB quiz 6 opens	<i>Homework 6 - Ch. 10</i>
21	23	(Feb. 25)
EXAM 2 (Ch. 6-10)	Read: Ch. 11 - 1way & Repeated ANOVA <i>Reading Assignment 4</i> Lab 7: Oneway & Repeated ANOVA BB quiz 7 opens	<i>Homework 7 - Ch. 11</i> **Due Saturday, Feb. 25 at 5pm**
28	Mar. 1	Mar. 2
Read: Ch. 12 - Two-way ANOVA <i>Reading Assignment 5</i>	Lab 8: Two-way ANOVA BB quiz 8 opens	<i>Homework 8 - Ch. 12</i>

March

Tuesday - Lecture	Thursday - Lecture & Lab	Friday - Homework
6	8	9
Read: Ch. 13 - Correlation <i>Reading Assignment 6</i>	Read: Ch. 14 - Regression Lab 9: Correlation & Regression BB quiz 9 opens	<i>Homework 9 - Ch. 13 & 14</i>
13	15	16
Read: Ch. 15 - Chi Square (stop at p.417) <i>Reading Assignment 7</i>	Lab 10: Chi-Square BB quiz 10 opens	<i>Homework 10 - Ch. 15</i>
20		
FINAL EXAM (CUMULATIVE) ***8-10AM***		