Psychology 302 – Statistical Methods in Psychology

Fall 2011

Lecture are held Tuesdays & Thursdays at 4-5:20 pm in 302 Gerlinger

Lecture Instructor:
Carly Smith
Email: carlys@uoregon.edu
Office: Straub 498
Office Hours: Thursday 2-3, Friday 11-12 or by appointment

Labs are held Wednesday 8:30-9:50, 10-11:20 & 12-1:20 in 180 Straub (open M-F during day)

Lab Instructors:

Shannon Peake	**Alicia Yee**
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Office: Straub 491	**Straub 328**
Office Hours: Mon/Wed. 1-2pm	**Monday 1-4pm**

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 activities: Because assigned reading is meant to be completed prior to lecture, these activities

will be designed to highlight critical components from the reading that will help clarify issues to be covered in lecture, on homework and on quizzes. Each week, there will be at least one assignment related to the week's reading 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. *See "Grading" section for more information.*

Homework: Homework assignments are due **at the start of lab each week beginning week 2. Homework turned after lab will be considered one day late.** Some problems will be completed by hand, some using PASW, and some using both methods. **Turn homework in on time - late homework is severely penalized.** 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 PASW 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.

Quizzes: You will have at least 45 minutes to complete each quiz. Quizzes will cover all material since the previous quiz and will be primarily multiple choice, True/False and short answers format. Quizzes are closed book and are completed individually. On quiz days, we will have a short lecture prior to the quiz. Absolutely no texting or other use of electronic devices is permitted during scheduled quiz time. Scheduling of quizzes is subject to change at the discretion of the instructors. At the end of the term, you will have the option of taking a cumulative "make-up" quiz, which will replace the lowest of your 5 quiz scores. Therefore, if you miss a quiz (and have a score of 0 for that quiz), the makeup quiz can be used to replace that. This is the only option for making up missed quizzes. On the final exam day, you will have the full 2-hour final exam period to complete quiz 5 and the make-up quiz (if you choose to take the make-up quiz). *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:

10%   Participation in in-class exercises.

10%   Reading activities

40%   9 homework assignments (lowest score replaced with highest if all homework is turned in for credit - that is, not more than 2 days late)
      *Late Homework Policy: 20% deduction for 1 day late, 50% for 2 days late, not accepted 3 or more days late

40%   5 quizzes/exams (lowest score replaced with make-up quiz score)

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.

COURSE SCHEDULE
Calendar Key: Read, *Turn in,* **Quiz**

September

Tue	Wed	Thu
27	28	29
Introduction	Lab 1: Intro to PASW, Frequency Dist.	Read: Ch. 1 - Intro & Ch. 2 - Freq. Dist. *Reading Assignment 1*

October

Tue	Wed	Thu
4	5	6
Read: Ch. 3 - Graphs & Ch. 4 - Central Tend. *Reading Assignment 2*	Lab 2: Graphs, CT *Homework 1 - Ch. 1 & 2*	**Quiz 1 - Ch. 1&2 (Stat terms, Freq. Dist)**
11	12	13
Read: Ch. 5 - Sampling	Lab 3: Sampling activity, z-scores and percentiles *Homework 2 - Ch. 3 & 4*	Read: Ch. 6 - z-scores & Dist. of means *Reading Assignment 3*
18	19	20
Read: Ch. 7 - Z-test, p. 176-186 - CI & Effect size *Reading Assignment 4*	Lab 4: z-test and CI/ES activities *Homework 3 - Ch. 5 & 6*	**Quiz 2 - Ch. 3-5 (Graphs-Sampling)**
25	26	27
Read: Ch. 9 - 1ST & Paired T	Lab 5: t-tests *Homework 4 - Ch. 7 & 8*	Read: Ch. 10 - IST *Reading Assignment 5*

November

Tue	Wed	Thu
1 Read: Ch. 11 - 1way & Repeated ANOVA *Reading Assignment 6*	**2** Lab 6: Oneway and Repeated ANOVAS *Homework 5 - Ch. 9 &10*	**3** **Quiz 3 - Ch. 6-8 (z's - CI/Effect size)**
8 Read: Ch. 12 - Two-way ANOVA	**9** Lab 7: Two-way ANOVA *Homework 6 - Ch. 11*	**10** Read: Ch. 13 - Correlation *Reading Assignment 7*
15 Read: Ch. 14 - Regression *Reading Assignment 8*	**16** Lab 8: Correlation & Regression *Homework 7 - Ch. 12*	**17** **Quiz 4 - Ch.9-12 (t's and ANOVA's)**
22 Read: Ch. 15 - Chi Square (stop at p.417) *Reading Assignment 9*	**23** Lab 9: Chi-Square *Homework 8 - Ch. 13 & 14*	**24** **NO CLASS**
29 Read: Appendix E *Reading Assignment 10*	**30** **NO LAB** *Homework 9 - Ch. 15*	**1 Dec.** Review

The final exam period for this class will be on Monday, Dec. 5 from 1-3pm