

PSYC 480/480L -- INTERMEDIATE STATISTICS AND LAB
Sections 01 -- Spring 2012 -- TTh 9:55 - 11:10 CSCC 206 and W 2:30-5:10 CSCC 202
COASTAL CAROLINA UNIVERSITY -- Dr. King

Enrollment Note: You cannot be enrolled in Psyc 480 without also being enrolled in Psyc 480L and *vice versa*. Psyc 225/225L or equivalent and Math 130 or equivalent is prerequisite to this course.

Catalog Description: An examination of additional topics in applied behavioral statistics. Topics include linear correlation and regression, hypothesis testing, analysis of variance, and multivariate statistics.

Textbook / Website: There is no required textbook for the class. Required readings will be made available online. There is a website to support this course. Go to ww2.coastal.edu/kingw and click on the link to this course. DO NOT go to Blackboard.

Calculator and Software: You will need a good scientific calculator. It does not have to be a graphing calculator. You will also want to have access to a statistical software package called R. It is installed on all the lab computers (CSCC 209). You can get a free copy at www.r-project.org to install on your own computer. This will be discussed further in class.

Attendance Policy: I take attendance every day that I remember to, because I am required to do so. There are no points for attendance, and it does not count in the grading. Don't count on doing well if you don't attend regularly, however. If you miss a class for any reason, don't ask me to repeat what I said. You will need to get notes from a classmate. If you miss a class, I do not need to know why.

Office and Office Hours: My office is CSCC 160E. This semester my office hours are TTh 8:00 - 9:50, and W 12:30-2:25. Other times are available by appointment. I am not easy to reach by phone, and I will not return your call. My e-mail address is [kingw\(at\)coastal\(dot\)edu](mailto:kingw@coastal.edu). If you send an e-mail, please include a subject line and tell me your name! I automatically delete e-mails without subject lines without reading them.

Dates to Remember: You may want to make a note of the following dates.

- Monday, January 16th - ML King holiday; no classes
- Friday, February 3rd - applications for graduation are due in the dean's office
- Monday - Friday, March 12th-16th - Spring Break; no classes
- Friday - Saturday, March 30th-31st - Celebration of Inquiry
- Friday, April 6th - holiday; no classes
- Wednesday, April 25th - last day of classes for regular Spring Semester
- Tuesday, May 1st - final exam period for this class (11:00 AM, regular classroom)

Grading: Your grade in this course will be based on weekly quizzes to be given every Wednesday *at the beginning of lab* (beginning Jan 18th), and a final exam to be taken during the final exam period. The quizzes will be worth 25 points each and may not be made up (you may drop two of them), and the final will be worth 50 points. There will also be two take-home homework exercises worth 25 points each, for a total possible of 400 points in the course. Grading will be based on total points achieved on these quizzes/exams/exercises. The grades will be based on the following scale: 90%-100% A, 85%-89.9% B+, 80%-84.9% B, 75%-79.9% C+, 70%-74.9% C, 65%-69.9% D+, 60%-64.9% D, 0%-59.9% F. You will receive the same grade in both the lecture and lab sections of the course. Anything covered in class or assigned in the readings is fair game for the quizzes/exams, *including* how to use the statistical software (R).

Topics to be Covered in This Course: The main emphasis of this course will be looking at data and learning to see relationships between variables. All kinds of data will be examined. Early in the course we will emphasize graphical methods and effect size measures. Later in the course we will incorporate methods for testing for statistical significance. Some topics you can count on covering (although not necessarily in this order):

- analysis of categorical data and contingency tables; chi-square
- analysis of numerical data; correlation, simple linear regression, curvilinear regression, multiple regression, analysis of covariance
- confounding and other problems that might obscure effects (or create phony ones)
- analysis of grouped data; t-tests, ANOVA, MANOVA and alternatives
- when grouped data go bad - i.e., unbalanced designs and so forth

Course Objectives: The goal of this course is to familiarize students with techniques used to analyze scientific data in the behavioral sciences. This course will prepare students to...

- compute and interpret basic and advanced descriptive statistics
- compute and interpret basic and advanced inferential statistics
- display data and relationships between variables graphically

Student Learning Outcomes: Upon completion of this course, students should be able to...

- look at a dataset, determine what the explanatory and response variables are, determine if they are categorical or numerical, and propose a reasonable statistical analysis.
- do a competent statistical analysis of the data
- see, analyze, and explain statistical relationships in categorical data.
- see, analyze, and explain statistical relationships in numerical data.

Disclaimer: The instructor reserves the right to make changes to this syllabus should the need arise. All such changes will be announced in class and posted at the class website.