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 are prerequisites for this course.

Website / Textbook: There is a website to support this course. DO NOT go to Moodle. Go to ww2.coastal.edu/kingw and click on the link to Psyc 480. There is no required textbook for this course. Several online textbooks are listed at the website.

Background: This is a second statistics course. It is assumed that you covered (and remember!) the following topics from your first statistics course: variables (independent and dependent), categorical (nominal), ranking (ordinal), and numeric (interval and ratio) levels of measurement, measures of center or central tendency (mean and median), what variability is and how to quantify it (sum of squares, variance, standard deviation, interquartile range), standardization (z-scores), confidence intervals, basic hypothesis testing, null vs. alternative hypotheses, Type I and Type II error, t-tests, simple analysis of variance, correlation, simple linear regression, chi-square tests (especially the test of independence), line graphs, bar graphs, histograms, box plots, scatter plots. You should also know a little basic experimental design: simple vs. factorial designs, between vs. within subjects, matched groups vs. repeated measures, true vs. quasi-experiment, what confounds are and how to control for them. If any of this sounds hazy or unfamiliar, check the website for review materials.

Calculator and Software: Everyone should have a good scientific calculator. It does not have to be a graphing calculator, although that could be helpful at times. Don't ask me how to use it. Read the manual. (If you've lost the manual, you can get it online.) Bring it to class with you. You might also want to have access to statistical software called R. It is installed on all the computers in the student computer lab in Wall 108, and on all the computers in Kimbel Library and Bryan Information Commons (so I'm told). Go to www.r-project.org to get a free copy to install on your own computer. (It won't work on a tablet or Chromebook, but there is a work around. Ask me.)

Attendance Policy: I take attendance every day that I remember to do so, because I am required to. There are no points or penalties for (non)attendance. Since there is no textbook, the only way to get the material is to BE HERE AND TAKE NOTES! Don't count on doing well if you don't attend every class and lab. If you miss a class for any reason, don't ask me to repeat what I said. Get notes from a classmate. (I don't have notes.) If you miss a class, I do not need to know why.

Office and Office Hours: My office is Smith Bldg. 217-I. My office hours this semester are MWF 10:00-10:45, W 2:00-2:45, and TTh 11:00-11:45. 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. Appropriate topics for e-mails include questions with simple answers that can be asked and answered briefly and that you cannot look up the answers to for yourself, for example by referring to this syllabus or the website. I'll answer questions about the R software by e-mail. If you're working outside of class and get an error message, I can get you straightened out IF you copy and paste the command you gave AND the error message you got.

Topics to be Covered in This Course: The main emphasis of this course will be on looking at data and learning to see relationships between variables. Each of the following methodologies will be covered: data summarization; relationships between a grouping variable (IV) and a numeric response (DV), including t-tests, simple and factorial ANOVA, and nonparametric methods; relationships between numeric variables (correlation and regression and more advanced techniques based on those, such as
mediation and path analysis). Most of the semester will be devoted to grouped data (t-tests, ANOVA). Special attention will be paid to the issues associated with unbalanced factorial designs.

**Grading:** There will be five exams worth 100 pts. each. Dates for these exams will be announced in class and posted at the website. The last of the exams will be given during the final exam period. Grading will be based on total points achieved and will be based on the following scale: 90% A, 80% B, 70% C, 60% D. The top half of these intervals will be the plus grades. Two important notes: 1) Grades are not based on the percentages but on total points, so rounding the percentages is not valid (i.e., 69.9% is not a C). 2) You will receive the same grade in both the lecture and lab section of the course.

**Dates to Remember:** You may want to make note of the following dates.
- Monday, January 15th -- Martin Luther King holiday (no classes)
- Monday-Friday, March 5th-10th -- Spring Break
- Wednesday/Thursday, March 14/15th -- Advanced Registration for Seniors (28/29th Juniors)
- Wednesday, March 21st -- last day to drop with a W
- Friday, March 30th -- Student Holiday (no classes)
- ???????????????? -- last day to apply for December 2018 graduation (application to dean)
- Wednesday, April 25th -- last day of classes this semester (lab will meet)
- Tuesday, May 1st at 11:00 AM -- **Final Exam** for this class (in the regular classroom)

**Notice to Seniors:** If you are planning to graduate next December, you must file an application to graduate *this semester*. Please look at your program evaluation before submitting your graduation application online. If it does not say Pending Anticipated Complete at the top, your application will not be approved. See your adviser. If it does say that, you should be good to go. Last date for applying has not been announced yet so far as I can tell, but there is a deadline, and if you miss it, the application fee is doubled. It would be best if you applied immediately after you preregister. Waiting until the last minute is a bad idea in the event that there may be problems.

**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: 1) compute and interpret basic and advanced descriptive statistics; 2) compute and interpret basic and advanced inferential statistics; 3) display data and relationships between variables graphically.

**Student Learning Outcomes:** Upon completion of this course, students should be able to: 1) 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; 2) do a competent statistical analysis of the data; 3) see, analyze, and explain statistical relationships in categorical data; 4) see, analyze, and explain statistical relationships in numerical data.