Syllabus for Biometry 6020 - Statistical Methods II, Spring 2018

Instructor: Joe Guinness (guinness@cornell.edu)
Lecture: Mondays and Wednesdays, 8:40 - 9:55 AM, Warren Hall B25
Labs: Mondays 2:55 - 4:00 or Tuesdays 1:25 - 2:40, Mann Library B30A
Instructor Office Hour: Wednesdays 10:00 - 11:00, Comstock 1178

Teaching Assistant: Indrayudh Ghoshal (ig248@cornell.edu)
Teaching Assistant Office Hour:

Teaching Assistant: Ben Baer (brb225@cornell.edu)
Teaching Assistant Office Hour:

Webpage: `https://github.coecis.cornell.edu/jsg342/btry6020_2018`

Prerequisite Course: Biometry 6010 or similar

Overview: The course covers statistical inference, sampling distributions, confidence intervals, multiple regression in detail, factor variables, interaction effects, F-tests, basic experimental design principles, and some advanced topics such as generalized linear models and random effects. An emphasis is placed on understanding the specified statistical model and correct interpretation of parameter estimates and statistical tests. The R programming language is used for statistical computing.

Required Textbook: *Applied Linear Regression, 4th Edition* by Sanford Weisberg. The third edition is available online through the library website. Fourth edition should be available soon.

Grading: Grades are based on weekly homework assignments, in-class quizzes, and a final exam. Homework is graded for "completeness in good faith" and accounts for 20% of the grade. Lowest quiz grade is dropped, and quizzes and account for 60% of the total grade. Final exam is during exam week and accounts for 20% of the total grade. Grades are posted on blackboard.

Labs: Labs are intended for students to obtain an in-depth and hands-on exposure to R programming. Potential topics include: introductory session and basic commands, R data structures, reading in data and manipulating data frames, R graphics, loops and conditional statements, functions and function scope, vector subsetting and matrix operations, recycling rules, working with factors, R markdown, the tidyverse, ggplot, developing an R package. Attendance will be taken at labs, but labs account for 0% of the total grade. Exemplary lab attendance will be rewarded with a *mystery lab attendance prize* at the end of the semester.

Homework Policy: Homework is to be submitted at the beginning of class on the day it is due. Late homework may be accepted in extreme circumstances, with penalty deemed appropriate by the instructor.

Disabilities: We are committed to ensuring access to learning opportunities for all students. Student Disability Services (SDS) is the campus office that helps provide and arrange reasonable accommodations for students with disabilities. Please give the instructor your SDS accommodation letter early in the semester so that we have adequate time to arrange your approved academic accommodations. If your accommodation needs change, please contact SDS and your instructor. SDS is located on level 5 of Cornell Health, 110 Ho Plaza, 607-254-4545, sds.cornell.edu.