Statistics 331: Statistical Computing with R

(Winter Quarter 2019)

Professor: Dr. Kelly Bodwin

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Office: 25-106

Drop-in Office Hours: MW 12:30-1:30pm, TR 10-11am

Individual meetings: By appointment

Forum Questions: Weekday response guaranteed within 24 hours, weekend response guaranteed by Sun at 8pm.

Class times:

Section 70: TR 2:10-4:00pm

Section 71: TR 4:10pm-6:00pm

Section 72: MW 4:10pm-6:00pm

Room: 38-123A (Statistics Studio Ckassroom)

General Information

Course description: Data acquisition, cleaning, and management in R; use of regular expressions; functional and object-oriented programming; graphical, descriptive, and inferential statistical methods; random number generation; Monte Carlo methods including resampling, randomization, and simulation.

Textbook:

No required textbook. Some suggested references are supplied on the course website.

Grade Breakdown:

Your grade will consist of the following:

- 10% In-Class Activities
- 15% Data Camp Assignments
- 15% Lab Assignments
- 15% Midterm
- 20% Final Project
- 25% Final Exam

Attendance Policy

Lectures are offered for your benefit, and it is your decision whether to take advantage of this help or not. I do not formally take attendance. However, if you do miss a class, keep three things in mind:

- In-Class Activities are graded. If you do not complete these during class time, you will need to do them on your own at home by midnight the day of class, and you will not have the advantage of checking your answers with me or your classmates.
- There is no textbook for this course. I will share lecture notes via PolyLearn, but these do not include live demos or extra questions that come up.
- I am in general not willing to spend time in office hours answering questions that were covered in a lecture that was missed.

Late Work Policy

- Except in very exceptional circumstances, there are **no extensions** on Data Camp Assignments or In-Class Activities, as subsequent lectures are based on this background.
- Lab Assignment extensions requested 24 hours before the deadline - that is, by Saturday night at midnight - will be automatically granted. *(I reserve the right to revoke this privilege if it is abused, either for individuals or the full class.)*
- Absolutley no "after-the-fact" extensions will be granted. Not even in the apocalypse. Please don't ask.

  However, because I prefer no material to be fully missed, I will accept late work at *any time* in the quarter. This late work will not be graded, but will instead recieve a score of 50% as long as it is complete.

Exam Details

There will be one in-class midterm worth 15% of your grade and one final exam worth 25% of your grade. Both will be held in our regular classroom.

With the exception of registered DRC accomodations, or exceptional circumstances with my prior approval, there will be no makeup exams. However, you will have the option to take the Final Exam with one of the other sections, as space allows.

Schedule for the exams:

- **Midterm:**

  Wednesday, February 13 (Section 72)

  Thursday, February 14 (Sections 70 and 71)

- **Final Exam:**

  Tuesday, March 19, 4:10-7:00pm (Section 70)

  Thursday, March 21, 7:10-10:00pm (Section 71)

  Friday, March 22, 4:10-7:00pm (Section 72)

Data Camp Assignments:

Before every lecture, you will be assigned all or part of a course on Data Camp, a website for interactive coding lessons: https://www.datacamp.com/. These assignments will typically take between 1 and 4 hours. You get full points for simply completing the assignments - not for time, correctness, or "XP" - so these are free points if you stay on top of your work!

Lab Assignments:

Each week, you will have a lab assignment that will ask you to apply what you learned to answer questions and present results using a real dataset. Lab assignments are due on **Sundays at midnight** via GitHub.

Lab assignments will carry approximately equal weight. There are no "dropped" assignments.

Collaboration: Although there are no formal lab groups, you are encouraged to work together on the labs. You are free to discuss each other's answers and look at each other's code. Note, however, that **directly copying code or answers is an academic dishonesty violation.**

Final Project:

In addition to your Final Exam, you will be asked to complete a small-group project to demonstrate your ability to independently produce polished tools in R. Your project will involve showcasing the functionality of a package in R that we have **not** otherwise studied, by creating a Shiny app and demo video. Further details of this project will be given in Week 5.

Other policies

Diversity and Inclusion.

It is my goal for everyone to feel safe and comfortable in my classroom. If there is any way I can make the course more welcoming for you, please do not hesitate to ask.

In particular, if you have a disability, I will gladly work with you to make this class accessible. I encourage you to also contact the Disability Resource Center (Building 124, Room 119 or at 805-756-1395), who can help you register for extra accomodations such as extended exam time.

Cheating and Plagiarism.

Simply put, I will not tolerate cheating. Any incident of dishonesty, copying, exam cheating, or plagiarism will be reported to the Office of Student Rights and Responsibilities. Cheating will earn you a grade of 0 on the assignment or exam *and* an overall course grade penalty of at least 10%.

For more information about what constitutes cheating and plagiarism, please see `https://academicprograms.calpoly.edu/content/academicpolicies/Cheating`.