Syllabus

Excerpts of Fall 2021 syllabus from STA 199: Introduction to Data Science at Duke University

Course Learning Objectives

By the end of the semester, you will...

- learn to explore, visualize, and analyze data in a reproducible and shareable manner
- gain experience in data wrangling and munging, exploratory data analysis, predictive modeling, and data visualization work on problems and case studies inspired by and based on real-world questions and data
- learn to effectively communicate results through written assignments and final project presentation

Textbooks

All books are freely available online. Hardcopies are also available for purchase.

R for Data Science	Grolemund, Wickham	O'Reilly, 1st edition, 2016
Introduction to Modern Statistics	Çetinkaya-Rundel, Hardin	OpenIntro Inc., 1st Edition, 2021

Course community

Inclusive community

It is my intent that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful of diversity and in alignment with Duke's Commitment to Diversity and Inclusion. Your suggestions are encouraged and appreciated.

Accessibility

If there is any portion of the course that is not accessible to you due to challenges with technology or the course format, please let me know so we can make appropriate accommodations.

The Student Disability Access Office (SDAO) is available to ensure that students are able to engage with their courses and related assignments. Students should be in touch with the Student Disability Access Office to request or update accommodations under these circumstances.

Communication

All lecture notes, assignment instructions, an up-to-date schedule, and other course materials may be found on the course website.

Announcements will be emailed through Sakai Announcements periodically. Please check your email regularly to ensure you have the latest announcements for the course.

Activities & Assessment

Labs

In labs, you will apply the concepts discussed in lecture to various data analysis scenarios, with a focus on the computation.

Homework

In homework, you will apply what you've learned during lecture and lab to complete data analysis tasks.

Exams

There will be two, take-home, open-note exams. Through these exams you have the opportunity to demonstrate what you've learned in the course thus far.

Final Project

The purpose of the final project is to apply what you've learned throughout the semester to analyze an interesting data-driven research question.

Grading

The final course grade will be calculated as follows:

Category	Percentage
Homework	30%
Labs	15%
Final Project	15%
Exam 01	17.5%
Exam 02	17.5%
In-class exercises	5%

Course policies

Academic honesty

TL;DR: Don't cheat!

Please abide by the following as you work on assignments in this course:

- You may discuss individual homework and lab assignments with other students; however, you may not directly share (or copy) code or write up with other students. For team assignments, you may collaborate freely within your team. You may discuss the assignment with other teams; however, you may not directly share (or copy) code or write up with another team. Unauthorized sharing (or copying) of the code or write up will be considered a violation for all students involved.
- You may not discuss or otherwise work with others on the exams.
- **Reusing code**: Unless explicitly stated otherwise, you may make use of online resources (e.g. StackOverflow) for coding examples on assignments. If you directly use code from an outside source (or use it as inspiration), you must explicitly cite where you obtained the code. Any recycled code that is discovered and is not explicitly cited will be treated as plagiarism.

Late work & extensions

The due dates for assignments are there to help you keep up with the course material and to ensure the teaching team can provide feedback within a timely manner. We understand that things come up periodically that could make it difficult to submit an assignment by the deadline. Note that the lowest homework and lab assignment will be dropped to accommodate such circumstances.

Important dates

- **Aug 23:** Classes begin
- **Sep 3**: Drop/add ends
- **Oct 4-5**: Fall break
- **Nov 5**: Last day to withdraw with W
- **Nov 24-26:** Thanksgiving recess
- **Dec 3**: Classes end
- **Dec 4-7**: Reading period
- **Dec 8-13**: Final exams