Office Hours:

Chris Sunday 7-9 pm Eliot Dhall

This course is designed for students with a strong interest in mathematics who also want to master the statistical and computational aspects of data analysis. It assumes that, thanks to Math 21, ... Math 55, you have become acquainted with linear algebra, infinite series, and multiple integrals, and it builds on this background to explain the inner workings of statistical tests that would otherwise have to be presented in a "cookbook" style.

We will explore many interesting proofs, but no time will be wasted on pencil-and-paper computations. Everything that involves real data will be done in R, a powerful scripting language that is easy to learn from scratch. You will have the option of learning to use R Shiny Dashboard to create cloud-based apps that can run on any browser. Here are some examples:
Fourier analysis of sunspot data and flu cases
Do men in a Minneapolis pub drink more beer than women?
Is a beta distribution a good model for batting averages?

By the time you finish your final project, you will have all the skills you need to land a summer job as a data analyst.

Here is a draft syllabus: syl156-2021.pdf

Click here for the Installation Links page with instructions on installing R and R Studio.
Here is a narrated version of script 0A, which you should watch before class.

Click here for a narrated runthrough of Shiny Class 1 (here is the .pdf file, which you should print first)
Here is the link for presentation signups. You should be able to add your name.