

# Syllabus

## BTS 510 Syllabus – Summer 2024

### Instructor information

- Stefany Coxé, Ph.D.
  - [stefany.coxe@cshs.org](mailto:stefany.coxe@cshs.org)
  - Office hours: By appointment (send me an email to schedule)
- Yujie Cui, M.S.
  - [yujie.cui@cshs.org](mailto:yujie.cui@cshs.org)
  - Office hours: Tuesday 2 to 3pm
- Michael Luu, M.P.H.
  - [michael.luu@cshs.org](mailto:michael.luu@cshs.org)
  - Office hours: Wednesday 1pm to 2pm

### Course information

#### Learning goals

This course covers topics related to **statistical analysis of experimental studies**. Topics include using and manipulating datasets, plotting data, probability, estimation and uncertainty, and statistical methods for experimental designs, such as comparing 2 independent or dependent means, comparing 2 independent or dependent proportions, and controlling for multiple comparisons.

## Learning objectives

- **Compare** and **contrast** possible analysis options based on the *experimental design* and *research question*
- **Select** the appropriate analysis approach for the research question
- **Analyze** data with statistical methods appropriate to the research question
- **Create** a written report of your findings
- **Make conclusions** about your research question(s) based on those results

## Course structure

### Time and location

We will meet in-person on **Thursday** from *9am to 10:30am* in ~~G-511 Auditorium in PDC~~ **Picasso conference room in PDC**.

### Course format

This course takes place in a **flipped, hybrid format**. We will meet in person for 1 hour 30 minutes each week. This time will be spent on **hands-on statistical programming in R**. You will be responsible for completing course assignments such as videos and readings **prior to class** in order to be prepared to participate in the in-person meeting. You will also have assignments to complete after class.

Each week will follow a similar structure:

- Monday: Lecture videos posted
- Wednesday: Watch lecture and respond to survey by 8pm Wednesday
- Thursday: In-person meeting to review material and work on applications
- Sunday: Homework assignment due by end of day (midnight)

## Software

We will be using **R** for this course. It's ok if you don't know how to use R (but also great if you do!). We'll start from scratch in the first few weeks. I will provide information about the specific procedures you will need to know for this course.

- R is free and open source and works on any platform (Windows, Mac, Unix)
  - Download R [here](#)
  - I also recommend using Rstudio, which can be downloaded [here](#)
  - If you use a Chromebook or tablet, you can use [Rstudio via the cloud](#)
    - \* I have not used this much, so I don't know all its shortcomings

- We'll also be using [Quarto](#)
  - Publishing system based on markdown
  - Intersperse plain text and code
  - Output to convenient formats, like HTML, PDF, Word
  - [Install Quarto](#)

## Assessments

Your work in this course will be assessed using a variety of methods.

### Lecture videos (10%)

Watch the lecture video. Respond to the survey afterward with questions and comments.

### Homework (60%)

There will be six (6) homework assignments. The assignments generally involve running analyses in R, interpreting output, and presenting the results.

### Final project (30%)

You will pick one of the five special topics and write a summary of the topic, primarily using the listed readings. More details to come.

## Tentative schedule

Find the tentative schedule [here](#).

## Grades

| Grade | Percentage |
|-------|------------|
| A+    | $\geq 97$  |
| A     | 93 - 96.99 |
| A-    | 90 - 92.99 |
| B+    | 87 - 89.99 |
| B     | 83 - 86.99 |
| B-    | 80 - 82.99 |
| C+    | 77 - 79.99 |
| C     | 70 - 76.99 |

| Grade | Percentage   |
|-------|--------------|
| D+    | 65 - 69.99   |
| D     | 60 - 64.99   |
| F     | $\leq 59.99$ |

## Cedars-Sinai policies

### Attendance

Attendance is not explicitly part of your grade in this course, but activities completed during the in-person portion of the course will be **very** helpful. If you need to miss class (such as for illness, religious event, professional activity, university-sanctioned event, or **any other reason**), please contact me to make any necessary arrangements.

### Academic dishonesty and misconduct

Please refer to your [policy handbook](#) for a description of what constitutes academic dishonesty.

- While you may work with other students on your homework assignments, I expect all students to complete and turn in their own work.