

Syllabus

BTS 510 Syllabus – Summer 2024

Instructor information

- Stefany Coxe, Ph.D.
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 - Office hours: By appointment (send me an email to schedule)
- Yujie Cui, M.S.
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 - Office hours: TBD
- Michael Luu, M.P.H.
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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**.

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+	≥ 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	≤ 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.