

STAT 450

Case Studies in Statistics

[Course Information](#)[Extra Resources](#)

Syllabus

Winter Session 2022/23 Term 2

Time and Place

- Lectures: Mon/Wed/Fri 9:00 am - 10:00 am in ESB 4192
- Labs: Fridays 3:00 pm - 4:00 pm in ESB 1042

Course Description

This course provides the basic statistical toolkit required for the understanding and use of a range of methods for both summarizing and analyzing data, giving a platform for further study of applied Statistics. The emphasis in the course will be the application of these methods to real-life situations from Science.

Course Objective

To train students to apply their statistical knowledge to applied research problems, to develop skills of working with non-statisticians either as a consultant or as a collaborator, and to communicate effectively, both orally and in writing, with statisticians and non-statisticians.

Most course activities will be organized around a series of case studies based on recent and current applied research problems from different subject-areas. Students will participate in:

- formulation of statistical approaches to these applied research problems,
- written and oral presentations of proposed statistical approaches,
- data exploration, model building and statistical inference,
- written and oral presentations of results of analyses,
- critical and interactive discussion of all aspects of the case study.

- Methodological topics that arise in the case studies will be discussed as necessary.

Students will work individually and in groups in different class activities and assignments. Throughout the term, students will work in groups on real case studies. Each team will be supervised and supported by the teaching team. Each student will make oral presentations of their team's work throughout the term and the teams will submit written reports of their work. The grande finale is a semi-public poster session, at the end of the semester. Note: each team will need to split the costs of poster printing.

Prerequisites

STAT 306. Restricted to 4th year Statistics majors.

Contact

Position	Name
Instructor	Keegan Korthauer
Instructor	Melissa Lee
Instructor	Rodolfo Lourenzutti
Writing Instructor	Estella Qi
Teaching Assistant	Chloe You

Please contact the instructors at stat450@stat.ubc.ca if you have personal or administrative questions that do not pertain to the course material (e.g., Centre for Accessibility registration, medical issues, mental health, special requests, etc).

Please use the STAT450 SLACK channel for communications related to:

- Technical issues (problem installing something, finding something);
- Questions related to the topics of the course;

Please note: The teaching team responds to emails Monday to Friday, and we try our best to answer you as promptly as possible. Please be patient if you don't get a response immediately!

Course Platforms

- **Canvas:** All course deliverables and information can be found on the [course's page on Canvas](#). Please check the Canvas website regularly to keep up-to-date with the course.
- **Slack:** Slack is a chat platform better for real-time messaging. We hope slack can facilitate the interaction between group members. We have created a [Workspace for STAT 450](#). You will first

need to join using the invitation link posted on Canvas (Link expires Feb 3).

- **GitHub:** You will carry out assignments and group work using GitHub for code development and version control.

Course Structure

Labs

- Labs will start in the first week of class.
- We will use RStudio in this course.
- You must attend the lab section. It is a crucial component of this course.

Textbook

Available for free in [LeanPub](#) (Links to an external site) under a sliding payment scale method. If you click the "Book" option you, you can get an electronic copy for free or you can pay what you can and/or want for the textbook.

You can also get it for free [here](#), but it appears the learnpub version is more recent.

Course Assessment

Table 1: Course

Deliverable	Weight
Homeworks	10%
Labs	10%
Group project	80%

Table 2: Project

Deliverable	Weight
Team Work Contract	5%
Group Proposal	5%
Client Interaction	10%
Individual written 1st Report	15%
Group Written 2nd Draft	10%
Group Final Report	10%
Group Oral Presentation	10%
Group Poster Session	10%
Individual Assessment on Group Work	5%

- For the due dates of the assignments, refer to the Canvas calendar.

Course Policies

Academic Integrity

All students are expected to follow UBC's [Academic Honesty and Standards](#) policy. We encourage students to work together on assignments and labs, however all of your work must be written in your own words. Students must correctly cite references if you quote or use outside sources in your work. Breach of the academic integrity policy may, at a minimum, result in a grade of 0 on the relevant assessment or may result in more serious consequences.

Please see UBC's Academic Calendar for detailed policies on [Academic Misconduct](#).

Health and Safety

Please follow the current [UBC COVID-19 Campus Rules](#) regarding self-monitoring, and staying home if you are sick. Although masks are no longer required on campus, please respect the choices of your fellow students and the instructional team who may continue to wear masks.

We, the instructors, will do our best to stay well, but if we are ill, we will not come to class. If that happens, here's what you can expect:

- Another instructor will substitute.
- Class may take place over Zoom.

Privacy

This course requires students to work and communicate on github.com and Slack. Please be advised that the material and information you put on GitHub and Slack will be stored on servers outside of Canada. Data used for these tools may not be protected, as they have not gone through a Privacy Impact Assessment (PIA) and been identified as FIPPA compliant. When you access GitHub or Slack, you will be required to create an account. While both tools have a privacy policy ([GitHub privacy policy](#), [Slack privacy policy](#)), UBC cannot guarantee security of your private details on servers outside of Canada. Please exercise caution whenever providing personal information. You may wish to use a pseudonym to protect your privacy if you have concerns. If you choose to do so, you will need to inform the instructional team of your alias. Please feel free to contact UBC (access.and.privacy@ubc.ca) or the support team for GitHub or Slack if you have any questions.