

STAT 200 (Summer 2020) Course outline

Course Description: Classical inferences about means, variances, linear regression and analysis of variance, using computers. Emphasis on problem formulation, assumptions, and interpretation.

Objective: 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.

Prerequisites: One of MATH 101, 103, 105, 121 or SCIE 001.

Recommended Textbook: De Veaux, R.D., Velleman, P.F., et al. (2018): Stats: Data and Models (Third Canadian edition). Pearson Canada.

Labs: We will use R and/or R Commander for data analysis. You will have registered for a lab when you enrolled on the course, and only under exceptional circumstances should you switch from this session to another.

Teaching method: We will adopt a partially flipped classroom teaching approach. There will be assigned reading which students are expected to complete before class. During lecture, the instructor will review concepts, deliver course material and use part of the lecture for in-class activities. Students will be solving problems on topics recently covered during in-class activities. Clicker-like questions will be given along the way to check progress and provide feedback to students.

Course Assessment:

Assessment	Date	Percentage
WeBWorK online homework	weekly	10%
Written assignments (2)	Wed Jul 22 and Fri Aug 7	10%
Video-related assignments	TBA	5%
Lecture review quizzes	weekly	10%
Labs	weekly	15%
Midterm	Wed Jul 29	20%
Final Exam (you must pass the final to pass the course)	To be scheduled by Classroom Services	30%

Policy regarding missing the midterm or final exam:

1. There will be NO make-up exam!
2. Students who miss an exam should notify the instructor prior to (if possible) or immediately after the exam.
 - If missing the midterm exam: students must submit the academic concession self-declaration form within one week of the day of exam. Late submission will NOT be accepted and a mark of zero will be given.
 - If missing the final exam: students should apply for standing deferral through their faculty office. Upon granted a standing deferral, students shall be permitted to write the deferral final exam in the next offering of the course.

Chapters to be covered:

1. Stats Starts Here
2. Displaying and Describing Categorical Data
3. Displaying and Summarizing Quantitative Data
4. Understanding and Comparing Distributions
5. The Standard Deviation as a Ruler and the Normal Model
6. Scatterplots, Association, and Correlation
7. Linear Regression
8. Regression Wisdom
9. Sample Surveys (not covered during summer term)
10. Experiments and Observational Studies (not covered during summer term)
11. From Randomness to Probability
12. Probability Rules
13. Random Variables and Probability Models
14. Sampling Distribution Models
15. Confidence Intervals for Proportions
16. Testing Hypotheses about Proportions
17. More about Tests
18. Inference about Means
19. Comparing Means
20. Paired Samples and Blocks
22. Comparing Counts
24. Analysis of Variance

University policies and resources to support student success:

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with

disabilities and for religious and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available at <https://senate.ubc.ca/policies-resources-support-student-success> .

Related academic policies:

[Academic Concession](#)

[Academic Honesty and Standards](#)

[Attendance](#)

[Grading Practices](#)

[Student Conduct and Discipline](#)

[Viewing Marked Work](#)