

SPRING 2024 - STAT 203 OL01

INTRODUCTION TO STATISTICS FOR THE SOCIAL SCIENCES (3)

Class Number: 2901 Delivery Method: Online

COURSE TIMES + LOCATION:

Online

EXAM TIMES + LOCATION:

Feb 13, 2024

Tue, 7:00–9:00 p.m.

Burnaby

Mar 26, 2024

Tue, 7:00–9:00 p.m.

Burnaby

Apr 15, 2024

Mon, 3:30–6:30 p.m.

Burnaby

INSTRUCTOR:

Wei Lin

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PREREQUISITES:

Recommended: 30 units including a research methods course such as SA 255, CRIM 220, POL 200W, or equivalent.

Description

CALENDAR DESCRIPTION:

Descriptive and inferential statistics aimed at students in the social sciences. Scales of measurement. Descriptive statistics. Measures of association. Hypothesis tests and confidence intervals. Students in Sociology and Anthropology are expected to take SA 255 before this course. Intended to be particularly accessible to students who are not specializing in Statistics. Students cannot obtain credit for STAT 203 if they already have credit for - or are taking concurrently - STAT 101, 201, 205, 285, or any upper division STAT course. Quantitative.

COURSE DETAILS:

Mode of Teaching:

Distance Education

This course will have some videos, all of which are asynchronous. There will be no live lectures.

This course may be applied to the Certificate in Liberal Arts

Outline:

This course covers Chapters 1-5, 7-12, 15-22, and 24-27 of the textbook. Chapters 7, 11, 19, and 24 are section reviews (and thus are optional). Details of the other chapters are as follows:

1. Descriptive Statistics (Chapters 1, 2, and 4 of text) Basic graphical statistics (e.g. bar graphs, pie charts, histograms, time plots, scatterplots) and basic numerical statistics (e.g. mean, median, mode, quartiles, standard deviation, correlation) are discussed. Scales of measurement are distinguished (e.g. nominal, ordinal, ratio and interval).

2. Probability (Chapters 3 and 12 of text) The normal distribution is introduced along with probability rules.
3. Sampling (Chapter 8 of text) Various sampling designs such as simple random sampling are discussed. The implementation of sampling procedures is also presented.
4. Experiments and Observational Studies (Chapters 8 and 9 of text) The design of experiments is introduced with an emphasis on randomization, treatments, subjects, factors, pairing and controls. Comparisons are made with observational studies.
5. Inference (Chapters 15, 16, 17, 18) Concepts related to the construction of confidence intervals (e.g. sampling distributions, confidence level, width, interpretation, the effect of sample size) are discussed. Also basic concepts related to the testing of hypotheses (e.g. hypotheses, p-values, statistical significance) are presented.
6. Estimation and Testing for One Sample Problems (Chapters 20 and 22 of text) Procedures for means and proportions are discussed. Confidence intervals (e.g. $\bar{x} \pm z^* \frac{s}{\sqrt{n}}$) and t -tests (e.g. $t = \frac{\bar{x} - \mu_0}{s/\sqrt{n}}$) are presented.

Students requiring accommodations as a result of disability must contact the Centre for Accessible Learning 778-782-3112 or caladmin@sfu.ca.

Tutor Requests:

Students looking for a tutor should visit <https://www.sfu.ca/stat-actsci/all-students/other-resources/tutoring.html>. We accept no responsibility for the consequences of any actions taken related to tutors.

REGISTRAR NOTES:

ACADEMIC INTEGRITY: YOUR WORK, YOUR SUCCESS

SFU's Academic Integrity website <http://www.sfu.ca/students/academicintegrity.html> is filled with information on what is meant by academic dishonesty, where you can find resources to help with your studies and the consequences of cheating. Check out the site for more information and videos that help explain the issues in plain English.

Each student is responsible for his or her conduct as it affects the university community. Academic dishonesty, in whatever form, is ultimately destructive of the values of the university. Furthermore, it is unfair and discouraging to the majority of students who pursue their studies honestly. Scholarly integrity is required of all members of the university. <http://www.sfu.ca/policies/gazette/student/s10-01.html>