



Students requiring accommodations as a result of disability must contact the Centre for Students with Disabilities 778-782-3112 or csdo@sfu.ca

This course may be applied to the
Certificate of Liberal Arts

Instructor: [Dr. Derek Bingham](#) (Burnaby Campus)

Instructor: [Ian Bercovitz](#) (Vancouver Campus)

Lab Instructor: [Robin Insley](#)

Prerequisite:

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 with credit for STAT 101, 102, 103, 201, 270, ARCH 376 or, BUEC 232 (formerly 332), may not subsequently receive credit for this course. Recommended: a research methods course such as SA 255, CRIM 120, POL 213 or equivalent is recommended prior to taking STAT 203.

Textbook:

The Basic Practice of Statistics (6th ed.), by D. S. Moore, W. I. Notz, M. A. Fligner. Publisher: W.H. Freeman
The textbook package is available at the SFU Bookstore. Alternately, student may purchase the online text and resources (StatsPortal) at the Freeman website: <http://www.bfwpub.com/>

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. **Quantitative.**

Outline:

Aimed at a non-mathematical audience, this course discusses procedures that are most commonly used in research in the social sciences. The rationale for these procedures is explained in detail but the use of mathematical formulas is kept to a minimum. STAT 203 is a satisfactory prerequisite for STAT 302. One of the key differences between STAT 203 and both STAT101 and STAT 102 is that STAT 203 uses the SPSS software package.

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, 10 and 11 of text)**

The normal distribution is introduced along with probability rules and sampling distributions.

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 (Chapter 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 14, 15 and 16)**

Concepts related to the construction of confidence intervals (e.g. 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 18 and 20 of text)**

Procedures for means and proportions are discussed with an emphasis on the use of SPSS software and the interpretation of results.

7. **Estimation and Testing for Two Sample Problems (Chapter 19 of text)**
Procedures for means are discussed with an emphasis on the use of SPSS software and the interpretation of results.
8. **Chi-Square Tests (Chapter 23 of text)**
Procedures for testing in contingency tables are discussed with an emphasis on the use of SPSS software and the interpretation of results. Measures of association are discussed.
9. **Regression (Chapter 5 and 24 of text)**
Simple linear regression is introduced with an emphasis on carrying out regression on actual data using SPSS software and the interpretation of results. Related concepts including residuals, least squares fit, testing and the construction of confidence intervals is addressed.
10. **One Way ANOVA (Chapter 25 of text)**
One way analysis of variance procedures are discussed with an emphasis on implementation using SPSS software and the interpretation of results.

Grading Scheme:

Burnaby & Vancouver Campus

Assignments – 10%

2 Midterms – 20% each

Final – 50%

The grading is subject to change.

Students should be aware that they have certain rights to confidentiality concerning the return of course papers and the posting of marks. Please pay careful attention to the options discussed in class at the beginning of the semester. Students are reminded that Academic Honesty is a cornerstone of the acquisition of knowledge. Scholarly integrity is required of all members of the University. Students are encouraged to review policies pertaining to academic integrity available on Student Services webpage at <http://students.sfu.ca/academicintegrity.html>

**Students looking for a Tutor should send an email to stat@sfu.ca with “Tutor Request” in the subject line.
Please only include information that you would like forwarded to our tutors mailing list.**

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