FALL 2015 - STAT 203 D900

INTRODUCTION TO STATISTICS FOR THE SOCIAL SCIENCES (3)

Class Number: 3466 *Delivery Method: In Person*

COURSE TIMES + LOCATION:

Tu 1:30 PM – 2:20 PM
SUR 3090, Surrey

Th 12:30 PM – 2:20 PM
SUR 3090, Surrey

EXAM TIMES + LOCATION:

Dec 14, 2015
8:30 AM – 11:30 AM
SUR 2600, Surrey

INSTRUCTOR:

Harsha Perera
gperera@sfu.ca

PREREQUISITES:

Prerequisite: : Recommended: a research methods course such as SA 255, CRIM 220, POL 213 or equivalent is recommended prior to taking STAT 203.

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 with credit for any of STAT 101, 201, 270, ARCH 376 or BUEC 232 may not subsequently receive credit for this course. Quantitative.

COURSE DETAILS:

This course may be applied to the Certificate in Liberal Arts

Lab Instructor: Robin Insley

Software: The SPSS statistical software package will be used for assignments and output interpreted on exams

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 201 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 interevals (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. **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.
9. **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.
10. **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.

Grading

Assignments	15%
Midterm 1	20%
Midterm 2	20%
Final Exam	45%

NOTES:

All grading is subject to change.

Materials

REQUIRED READING:

Required Textbook:

The Basic Practice of Statistics (7th 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/

DEPARTMENT UNDERGRADUATE NOTES:

Students with Disabilites:

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

Tutor Requests:

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 (contains people external to the University). We accept no responsibility for the consequences of any actions taken related to tutors.

REGISTRAR NOTES:

SFU's Academic Integrity web site http://students.sfu.ca/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

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