University of British Columbia
STAT 203 - STATISTICAL METHODS
2011-2012 Fall -- Harry Joe

Description: Organizing, displaying and summarizing data. Inference based on elementary probability models including estimation and hypothesis testing. Faculty of Science credit will not be given. Credit will be given for only one of Statistics 203 and Statistics 200. Students who have taken Mathematics 100 are advised to take Statistics 200 rather than Statistics 203. For science students applying to Pharmacy: Pharmacy advises you to take Stat 200 in lieu of Stat 203.

Prerequisite: Mathematics 11.

Objectives: Determining the validity of a political, economic, legal or scientific argument calls for the weighing of evidence. Often this evidence consists of data. In this course, you will learn statistical methods for presenting and evaluating data. You will also develop ways of thinking critically about data collection and analysis.

Tutorial: During the tutorial sessions, TA's will discuss pre-assigned problems, lead the class in practical activities, and supervise regular in-class quizzes.

Computer use: You will need a calculator that can do basic arithmetic, including taking square roots. Use of a statistical software will be introduced. The CD included with your text contains useful discussion and examples, exercises, and data analysis instructions for Datadesk. We encourage you to use the CD at home.

Evaluation: Course grade is based on two assignments, tutorial performance, two in-class exams and a final examination.

Textbook: Introduction to Statistics by De Veaux, Velleman and Bock, 3rd edition Addison- Wesley. Copyright 2009.

Topics:
Chapters 1-6: Exploring and understanding data (displays and summaries of categorical and quantitative data, normal model) [8 hours]
Chapters 7-9: Exploring relationships between variables, (scatterplots, correlation, regression) [4 hours]
Chapters 12-13: Gathering data (sample surveys, experiments) [4 hours]
Chapters 14, 15, 18: Randomness and probability, central limit theorem [7 hours]
Chapters 19, 20, 21: One sample inference for proportions [6 hours]
Chapter 23: Inference for means [4 hours]
If time allows: Chapters 24, 25