STAT 201
Statistics for the Life Sciences

If you have a disability and must contact the Centre for Students with Disabilities 778-782-3112 or csdo@sfu.ca

Spring 2010
Day Course
Statistics Workshop

This course may be applied to the
Certificate of Liberal Arts

Instructor: Scott Pai (Burnaby)
Instructor: Dr. Dave Campbell (Surrey)
Lab Instructor: Robin Insley

Prerequisite:
30 units. Students with credit for STAT 101, 102, 203 (formerly 103), 270 (formerly MATH 272) or 301 may not take STAT 201 for further credit. Intended to be particularly accessible to students who are not specializing in Statistics.

Textbook:
The Basic Practice of Statistics, 5th Edition, by David S. Moore, W.H. Freeman Publishers
The textbook package is available at SFU Bookstore. Alternatively, student may purchase the online text and resources (StatsPortal) at the Freeman website: http://www.bfwpub.com/

Calendar Description:
Research methodology and associated statistical analysis techniques for students with training in the life sciences. Quantitative

Outline:
Aimed at a non mathematical audience, this course discusses techniques that are most commonly used in the summary of statistical surveys and in the interpretation of experimental data. Either STAT 101 or STAT 201 is a satisfactory prerequisite for STAT 302. This course will cover all 24 chapters of the Moore (5th edition) text excluding chapters 12, 20 and 21

1. Data summaries and displays: Graphical displays, measures of central tendency, measures of dispersion, percentiles, the normal curve, computer generated graphs and data summaries.
2. Summarizing the relationship between variables: Scatter plots, the regression line, correlation, and causation.
3. Basic probability calculations: The addition and multiplication rules, and independence.
4. Distributions for count data: The binomial and Poisson distributions; when they arise, and their basic properties.
5. Hypothesis tests and confidence intervals: p-values, confidence levels, and their interpretation; inferences on a proportion and a mean based on the standard normal and t-distributions, underlying assumptions, and a mention of alternatives.
6. Comparing two treatments: Completely randomized and paired designs; associated standard normal and t-tests.
7.