FALL TERM 2009 COURSE OUTLINE

This is an introductory course in research methodology and associated statistical analysis techniques for students with training in the life sciences. Aimed at a non mathematical audience, this course discusses procedures that are most commonly used in the summary of statistical surveys and in the interpretation of experimental data.

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; where 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. Inference on the relationship between two variables: Simple linear regression and correlation analysis, plus, if time permits, comparing two lines and basic analysis of covariance.
8. Comparing several treatments: Completely randomized and randomized block designs; one- and two-way analyses of variance.
9. Analyzing Frequency Counts: tests for homogeneity and independence.

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.

TEXT(S):
Moore, D. (2010). *The Basic Practice of Statistics* (5th ed.). W. H. Freeman .

Note: Students purchasing a used textbook must ensure that the CD is present (with a functional password).

REQUIREMENTS:		
	Assignment 1	5%
	Assignment 2	5%
	Midterm Exam	30%
	Assignment 3	5%
	Assignment 4	5%
	Final Exam	50%

REQUIREMENTS NOTE: To review the exam schedule go to: www.sfu.ca/code. Students with exam conflicts may not register for this course.
Students requiring accommodation as a result of a disability, must contact the Centre for Students with Disabilities (778-782-3112 or csd_office@sfu.ca).

DELIVERY MODE:

MODE OF DELIVERY NOTE: STAT 201 is entirely *online*. There is no face to face interaction. Students are required to have regular access to *WebCT* for the entire duration of the course.

SUPPLEMENTARY FEES: Course materials and service fee
Deposit for additional materials $0.00 34.3108 Tc q 1 0 0 -1 12

WebCT Computer Requirements

This course requires active online participation in *WebCT* (a web-based course management system).

On-campus computer facilities are available. If you are using your own computer, these are the ***minimum*** **computer requirements:**

Hardware