Course Outline

Course Title: Statistics for the Life Sciences
Course Code: STAT 201

Fall 2011
Credits: 3
Section: C100
Course Description:

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.

Requisite:

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.

Textbook:
- Moore, David S.. *THE BASIC PRACTICE OF STATISTICS*. (5TH) W. H. Freeman
Course Material:
All course material available online the first day of classes
Course Requirements:

Assignment/Exam	Percentage
Assignment 1	5%
Assignment 2	5%
Assignment 3	5%

Assignment 4	5%
Mid-term Exam	30%
Final Exam	50%

Requirements Notes:

Please Note: Students requiring accommodation as a result of a disability must contact the Centre for Students with Disabilities at 778-782-3112 or csd_office@sfu.ca.

Students are responsible for following all exam policies and procedures (e.g., missing an exam due to illness) available here.

Fees:
- Course materials & service fee $40.00 CAD
Delivery Method:
- WebCT

Please Note: This course outline was accurate at the time of publication but is subject to change. Please check your course requirements carefully when your class starts.

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