

# Course Outline

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

Fall 2010

**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:**

-[Study Guide](#)

Students must indicate Pickup or Mail when enrolling in the Student Information System (SIS), in order to receive the required course material listed above

**Course Requirements:**

Assignment/Exam	Percentage
Assignment 1	5%
Assignment 2	5%
Assignment 3	5%
Assignment 4	5%
<a href="#">Mid-term Exam</a>	30%
<a href="#">Final Exam</a>	50%

**Requirements Notes:**

Please Note: Students requiring accommodation as a result of a disability must contact the Centre for Students with Disabilities at 7787823112 or [csd\\_office@sfu.ca](mailto:csd_office@sfu.ca).

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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.