

SUMMER 2015 - STAT 201 C100

**STATISTICS FOR THE LIFE SCIENCES (3)***Class Number: 2040 Delivery Method: Distance Education***COURSE TIMES + LOCATION:**

Distance Education

**EXAM TIMES + LOCATION:**

Jul 2, 2015

7:00 PM – 9:00 PM

RCB IMAGTH, Burnaby

Aug 13, 2015

8:30 AM – 11:30 AM

SSCC 9002, Burnaby

Aug 13, 2015

8:30 AM – 11:30 AM

SSCC 9000, Burnaby

**PREREQUISITES:**

Prerequisite: : 30 units. Students with credit for any of STAT 101, 203 or 270 may not take STAT 201 for further credit,

## Description

**CALENDAR DESCRIPTION:**

Research methodology and associated statistical analysis techniques for students with training in the life sciences. Intended to be particularly accessible to students who are not specializing in Statistics. Quantitative.

**COURSE DETAILS:**

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.

## Grading

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Four Assignments	15%
Mid-term Exam	15%
Final Exam	70%

**NOTES:****Delivery Method:****Canvas**

Starting on the first day of classes, students are able to log in.

**REQUIREMENTS:**

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

## Materials

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**MATERIALS + SUPPLIES:**

Additional Course Fee: \$40

All **Required Readings** listed below are not provided by the Distance Education Office (CODE).

**REQUIRED READING:**

*The Basic Practice of Statistics w/ LaunchPad Access Code (7th Ed.)*, Moore

ISBN: 9781319019334

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**DEPARTMENT UNDERGRADUATE NOTES:****Students with Disabilities:**

Students requiring accommodations as a result of disability must contact the Centre for Students with Disabilities 778-782-3112 or [csdo@sfu.ca](mailto:csdo@sfu.ca)

**Tutor Requests:**

Students looking for a Tutor should send an email to [stat@sfu.ca](mailto:stat@sfu.ca) with "Tutor Request" in the subject line. Please only include information that you would like forwarded to our tutors mailing list (contains people external to the University). We accept no responsibility for the consequences of any actions taken related to tutors.

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**REGISTRAR NOTES:**

SFU's Academic Integrity web site <http://students.sfu.ca/academicintegrity.html> is filled with information on what is meant by academic dishonesty, where you can find resources to help with your studies and the consequences of cheating. Check out the site for more information and videos that help explain the issues in plain English.

Each student is responsible for his or her conduct as it affects the University community. Academic dishonesty, in whatever form, is ultimately destructive of the values of the University. Furthermore, it is unfair and discouraging to the majority of students who pursue their studies honestly. Scholarly integrity is required of all members of the University. <http://www.sfu.ca/policies/gazette/student/s10-01.html>

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