

SPRING 2015 - STAT 201 C100

STATISTICS FOR THE LIFE SCIENCES (3)*Class Number: 2813 Delivery Method: Distance Education***COURSE TIMES + LOCATION:**

Distance Education

EXAM TIMES + LOCATION:

Mar 4, 2015

7:00 PM – 9:00 PM

SSCB 9201, Burnaby

Apr 16, 2015

8:30 AM – 11:30 AM

SSCB 9200, 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.

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

Tutor Requests:

Students looking for a Tutor should send an email to 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.

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>

ACADEMIC INTEGRITY: YOUR WORK, YOUR SUCCESS

STAT 201 Statistics for the Life Sciences

Spring 2015

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 any of STAT 101, 203 or 270 may not take STAT 201 for further credit. Quantitative.

Textbook:

- Moore, David, Notz, William & Fligner, Michael. *THE BASIC PRACTICE OF STATISTICS*. (6TH ED.) W.H. Freeman

PLEASE NOTE: This Text includes Access to StatsPortal + Online Access to e-textbook . If a Used Text is purchased this software must be purchased separately from the publisher.

Textbook(s) are available for purchase from the SFU Burnaby Bookstore approximately 3 weeks prior to the start of classes, either in person or online through the SFU Bookstore [eService](#).

Course Material:

All Course Materials Available Online on the First Day of Classes.

Fees:

- [Course materials & service fee](#) \$40.00 CAD

Delivery Method:

- [Canvas](#)

Course Requirements:

Assignment/Exam	Percentage
Four Assignments	15%
Mid-term Exam	15%
Final Exam	70%

Requirements Notes:

Student must pass the term components (assignments and midterm) as a necessary condition for passing the course.

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](#).

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.