

FALL TERM 2009 COURSE OUTLINE

STAT 201–3 (STATISTICS & ACTUARIAL SCIENCE)

STATISTICS FOR THE LIFE SCIENCES

C100

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(S): 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: Print
WebCT

(To view the computer requirements for this course go to www.sfu.ca/code, click on "CODE Courses/Outlines," click on the department name, click on the course outline link, and then click on the "computer requirements" link.)

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	\$40.00
	Deposit for additional materials	\$0.00

Note: Every distance course includes a CODE package containing assignment deadlines and other information. Please pick it up at the Centre or ask that it be mailed when registering on goSFU.

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

- PC with *Windows NT, 2000, XP, or Vista* **OR** Mac with *OS X 10.1* or later.
- 128 MB of RAM for Windows, 1 GB for Windows Vista (recommended); 128 MB of RAM for Mac OS X, 10.2, 10.3, 256 MB for Mac OS X 10.4.
- 56K baud modem or better
- Sound card, speakers or headphones, microphone (for synchronous courses)

Software and Other

- Internet connection and e-mail access
- The latest version of [Adobe Flash Player](#)
- Windows Media Player or QuickTime Player. Windows Media Player is standard software on most recent Windows operating systems. Click here for [QuickTime](#).
- The following Web browsers are recommended:

PC

Internet Explorer 6, 7
Firefox 1.5, 2.0

Mac

Firefox 1.0
Safari 1.3

For more information about supported Web browsers and Java Virtual Machine visit this [site](#).

WebCT Access and Accounts

- **Access to *WebCT* begins on the first day of classes.**
- To access *WebCT* go to the [WebCT site](#).
- **SFU students:** Use your SFU computing account ID and password to log into *WebCT*. [Click here](#) for information about how to get your SFU Computing ID.
- **TRU-OL students:** *WebCT* access details will be provided in your CODE course package.

Connecting to the Internet from Home

- You are responsible for setting up your connection through your own external Internet service provider (ISP) (e.g., Telus, Shaw, etc.).

General

- Prior computer knowledge is expected (i.e., ability to save files, install programs, and maintain your computer). Familiarity with the Internet, e-mail, and related applications is strongly recommended.
- Support is not available for general computer problems (e.g., operating system, hardware).

Need Help?

- General inquiries: [CODE technical support](#) or call 778-782-5575.
- [WebCT FAQs](#) for students.
- [Help](#) with your SFU computing account or call 778-782-3230, or visit AQ 3148 on the Burnaby campus.