Topics:

The scheduling of the following topics is approximate:

1. Review of introductory statistics from the pre-requisite course: Hypothesis testing, estimation and confidence intervals for means and proportions.
2. Review of basic concepts of probability with applications including diagnostic testing, sensitivity and specificity, the relative risk and the odds ratio.
3. Contingency Tables: The Chi-square test, r x c tables, multiple 2x2 tables, Simpson's paradox, Mantel- Haenszel method.
4. Correlation and simple linear regression: Regression concepts, estimation and testing for regression coefficients, evaluation of the model.
5. Multiple linear regression: Inference for regression coefficients, confounding and interaction, indicator variables, model selection, prediction, model assumptions and checking.
6. Logistic regression: Odds ratios, inference for regression coefficients, model assumptions, case-control studies.
7. Time permitting: Survival analysis including life tables, censoring, Kaplan-Meier method, log-rank test.

## Grading

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|---|---|
| Assignments | 10% |
| Midterm 1 - Oct 15th - 16:45-18:20 | 20% |
| Midterm 2 - Nov 19th - 16:45-18:20 | 20% |
| Final Exam | 50% |

***Above grading is subject to change.***

Assignments:
Assignments are intended to provide practical experience analyzing and interpreting health data. Students are encouraged to work in the Statistics Workshop, where one-on-one help is available. To mark assignments, the Workshop uses Crowdmark, an online system which requires uploading your completed assignments in advance. Please be sure to leave enough time for assembling and uploading your assignment to Crowdmark and for seeking help from the Workshop if necessary. Working with other students is encouraged. You should, however, come to your own conclusions, and write them up in your own words. Methods used should be described and shown, and brief computer output should be included with the answer. The freely-available, statistical-computing environment, R, is supported by the Statistics Workshop and will be used in this course. Students doing poorly on an assignment, turning in a latscf R, is supp, R,E

Students with Disabilites:
Students requiring accommodations as a result of disability must contact the Centre for Accessible Learning 778-782-3112 or csdo@sfu.ca

Tutor Requests:
Students looking for a Tutor should visit http://www.stat.sfu.ca/teaching/need-a-tutor-.html. We accept no responsibility for the consequences of any actions taken related to tutors.

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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