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

“Special Section for Health Sciences Students”

Instructor: Darby Thompson

Lab Instructor: [Robin Insley](#)

Prerequisite:

Completion of STAT 201 or 203.

Textbook:

Principles of Biostatistics, 2nd Edition, Pagano M, Gauvreau K.. Pacific Grove, CA: Duxbury, 2000.

Course Description:

Intermediate statistical techniques for the health sciences. Review of introductory concepts in statistics and tables and the analysis of multiple 2x2 tables. Correlation and regression. Multiple regression and model selection. Logistic regression and odds ratios. Basic concepts in survival analysis.

Outline:

This course provides an opportunity for

Topics:

The scheduling of the following topics is approximate:

1. Review of introductory statistics: 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, $r \times c$ tables, multiple 2×2 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 and checking, case-control studies.