

By the end of the course, the participant should:

1. Understand the concept of a statistical model and how such models correspond to specific hypotheses or questions,
2. Be able to interpret the results of an analysis in relation to the original questions or hypotheses that motivated the analysis,
3. Be familiar with basic data analysis methods commonly used in health sciences.

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. Simple linear regression: Interpretation, estimation and testing of regression coefficients, evaluation of the fit of the model.
5. Multiple linear regression: Interpretation, estimation and testing of regression coefficients, confounding and interaction, indicator variables, model selection, prediction, model assumptions and checking.
6. Logistic regression: Interpretation, inference for regression coefficients, model assumptions, case-control studies.

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Assignments	20%
Midterm 1	20%
Midterm 2	20%
Final Comprehensive Exam	40%

There will be no make-up midterms.

Students must pass the final exam in order to pass the course.

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Principles of Biostatistics (2nd ed.) by M. Pagano, K. Gauvreau. Publisher: Brooks/Cole and CRC Press

Book is available through the [SFU Bookstore](#)

, 2nd ed. by A. Cannon, G.W. Cobb, A. Hartl

publisher: Br t liar r bre.

