SPRING 2024 - STAT 410 D100

STATISTICAL ANALYSIS OF SAMPLE SURVEYS (3)

Class Number: 2801 Delivery Method: In Person

COURSE TIMES + LOCATION:

Jan 8 – Apr 12, 2024: Mon, 2:30–3:20 p.m.
Burnaby

Jan 8 – Apr 12, 2024: Thu, 2:30–4:20 p.m.
Burnaby

INSTRUCTOR:

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PREREQUISITES:

STAT 350 with a minimum grade of C-.

Description

CALENDAR DESCRIPTION:

An introduction to the major sample survey designs and their mathematical justi ication. Associated statistical analyses. Quantitative.

COURSE DETAILS:

Course Outline:

This course covers the major ideas and methods of modern survey sampling.

Ideas of sampling, overview of application areas. Use of the free statistical software package R to select random samples and explore sampling ideas through simulation and graphics.
Simple Random Sampling: Selecting random samples with and without replacement, concept of population and sampling frame, estimating means, totals, and proportions, the inite population correction factor, con idence intervals, use of the normal approximation, choosing the sample size.
Unequal probability sampling. How to select a sample of units with unequal selection or inclusion probabilities, unbiased estimation with unequal probability designs.
Strati ied Random Sampling: Strati ication of a population, selecting strati ied random samples, advantages of strati ication, gains in precision, con idence limits, optimal sample sizes, strati ication after selection.
Ratio and Regression Estimation: Use of auxiliary information, bias, mean square error, gains in precision, con idence intervals, design versus model based approaches

Grading

Quizzes	36%
Comprehensive assessment	24%