SUMMER 2023 - STAT 604 G100
ANALYSIS OF EXPERIMENTAL AND OBSERVATIONAL DATA (3)

Overview

COURSE TIMES + LOCATION:

Mo 2:30 PM – 3:20 PM
SSCC 9001, Burnaby

Th 2:30 PM – 4:20 PM
SSCC 9001, Burnaby

EXAM TIME + LOCATION:

INSTRUCTOR:

Sessional

PREREQUISITES:
Any course in Statistics. Open only to students in departments other than Statistics and Actuarial Science.

Description

CALENDAR DESCRIPTION:
The standard techniques of multiple regression analysis, analysis of variance, and analysis of covariance, and their role in experimental research. Students with credit for STAT 302 may not take this course for further credit.

COURSE DETAILS:
STAT Workshop Coordinators: Marie Loughin
Outline:

1. Review: Important concepts from the first course in statistics will be reviewed.
2. Simple linear regression: models summarizing the relationship between two quantitative variables. This unit includes the estimation and interpretation of model parameters, assessment of the model's fit, inference, and prediction.
3. Multiple regression: models in which several explanatory variables combine to help explain the variability in a quantitative response variable. This unit includes model assessment, comparison of two regression lines, interactions between explanatory variables, and multicollinearity. Additional topics may include identifying unusual points, variable selection, and/or coding categorical predictors.
4. Analysis of variance (ANOVA): models that allow the comparison of means of a quantitative response variable across groups defined by a categorical explanatory variable. This unit includes model assessment, inference methods for comparison of means, and tests for homogeneity of variances.
5. Other topics may include analysis of covariance, the problem of multiple testing, and/or block designs.

Grading

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

NOTES:

You must pass the final exam to pass the course.

Above grading is subject to change.

Materials

MATERIALS + SUPPLIES:
We will be using the R programming language, which you can access via Jupyter, an online platform, at https://sfu.syzygy.ca/.