

GENERALIZED LINEAR MODELS AND DISCRETE DATA ANALYSIS (4)

Class Number: 5907 Delivery Method: In Person

COURSE TIMES + LOCATION:

Tu, Th 12:30 PM – 2:20 PM
AQ 5035, Burnaby

INSTRUCTOR:

Sonja Isberg
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PREREQUISITES:

STAT 830 and STAT 850 or permission of instructor.

Description

CALENDAR DESCRIPTION:

The theory and application of statistical methodology for analyzing non-normal responses. Special emphasis on contingency tables, logistic regression, and log-linear models. Other topics can include mixed-effects models and models for overdispersed data.

COURSE DETAILS:

1. Analysis of contingency tables
2. Generalized linear models (GLMs)
 - a. The exponential family
 - b. Link functions
 - c. Relationship to linear models
 - d. Iterated reweighted least-squares estimation
3. Models for overdispersed data
 - a. Quasi-likelihood
 - b. Introduction to estimating functions
4. Models for multinomial data
 - a. Log-linear models
 - b. Ordinal responses

Grading

Assignments	40%
Midterm	40%
Final Project	20%

NOTES:

Materials

RECOMMENDED READING:

Author: Alan Agresti. Publisher: Wiley

ISBN: 978047046365

Authors: McCullagh and Nelder. Publisher: CRC Press

ISBN: 9780412317606

Authors: Dobson and Barnett. Publisher: CRC Press

ISBN: 9781138741515

REQUIRED READING NOTES:

Your personalized Course Material list, including digital and physical textbooks, are available through the SFU Bookstore website by simply entering your Computing ID at: shop.sfu.ca/course-materials/my-personalized-course-materials.

GRADUATE STUDIES NOTES:

Important dates and deadlines for graduate students are found here: http://www.sfu.ca/dean-gradstudies/current/important_dates/guidelines.html. The deadline to drop a course with a 100% refund is the end of week 2. The deadline to drop with no notation on your transcript is the end of week 3.

REGISTRAR NOTES:

SFU's Academic Integrity website <http://www.sfu.ca/students/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>