SPRING 2015 - STAT 851 G100

GENERALIZED LINEAR MODELS AND DISCRETE DATA ANALYSIS (4)

Class Number: 4824   Delivery Method: In Person

COURSE TIMES + LOCATION:

Tu, Th 12:30 PM – 2:20 PM
AQ 5004, Burnaby

INSTRUCTOR:

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Office: SCK-10548

PREREQUISITES:

Prerequisite: : 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:

Course Outline:

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	20%

Midterm	20%
Final	30%
Project	30%

NOTES:

All grading is subject to change.

Materials

RECOMMENDED READING:

-An Introduction to Generalized Linear Models, 3rd ed, by Annette J. Dobson & Adrian Barnet. Publisher: CRC Press
-Generalized Linear Models, 2nd ed. By McCullagh and Nelder. Publisher: CRC Press

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 web site http://students.sfu.ca/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

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