STAT 602
Generalized Linear and Nonlinear Modelling

Spring 2011
Day Course

Students requiring accommodations as a result of disability, must contact the Centre for Students with Disabilities 778-782-3112 or csdo@sfu.ca

Instructor: Dr. Leilei Zeng

Prerequisite:

STAT 302 or STAT 350 or permission of instructor. Open only to graduate students in departments other than Statistics & Actuarial Science.

Textbook (Optional):

An Introduction to Generalized Linear Models (3rd edition) by: A.J.Dobson; publisher: Chapman & Hall. (on three –day reserve in Bennett Library)

Calendar Description:

A methods oriented unified approach to a broad array of nonlinear regression modelling methods including classical regression, logistic regression, probit analysis, dilution assay, frequency count analysis, ordinal type responses, and survival data. A project will be assigned related to the student's field of study.

Outline:

The theory of generalized linear models has provided a unified framework for regression models and offered great insight into the connections between a variety of statistical procedures. This course introduces students to generalized linear models with attention primarily directed towards theory and applications involving different types of outcome data such as binary, categorical and count data. It extends beyond the concepts and methods of STAT 350, and targets students who are interested in advanced regression modelling.

1. Review of linear regression and likelihood methods
2. Theory of generalized linear models: the exponential family, link function, iteratively reweighted le5k f≥sque i