# STATISTICS 602-3
# GENERALIZED LINEAR AND NONLINEAR MODELLING

**Spring 2006**
**DAY COURSE**

*Students requiring accommodations as a result of disability, must contact the Centre for Students with Disabilities604-291-3112 or csdo@sfu.ca*

**Instructor: Dr. R. Altman (SC K10551)**

**Prerequisites:**

STAT 302 or STAT 350.

**Textbook:**

*An Introduction to Generalized Linear Models* (2nd edition) by: A.J.Dobson; publisher: Chapman & Hall.

**Calendar Description:**

A skills-oriented unified approach to a broad array of non-linear regression modelling methods including classical regression, logistic regression, probit analysis, dilution assay, frequency count analysis, ordinal-type responses, and survival data.

**Outline:**

NOTE: This course extends the concepts, methods and approach of Stat 302-3to cover a wide variety of types of outcome data. It employs a modern unified approach to a broad array of nonlinear regression problems.

1. Brief Review of Fundamental background.
2. Overview: Empty model, link function, simple examples of structuring a mean value vector with link function and design matrix, and of structuring variance with a variance function; iterated reweighted least squares estimation.
3. Examples from exponential-type likelihood models: Normal, including classical linear regression and other links; Poisson, including log-linear regression; Binomial, including logit, probit,