

Syllabus for Regression Methods February, 2012

1. Introduction: Review of multivariate regression
2. Generalized least squares
3. Introduction to generalized linear models
 - (a) Motivation
 - (b) Exponential family
 - (c) Estimation
 - (d) Inference
4. Binary data: Logistic regression, probit models, nominal and ordinal logistic regression
5. Count data: Poisson regression, log-linear models
6. Non-parametric regression

Textbooks:

- *Generalized Linear Models*, McCullagh, P. and Nelder, J.A.
- *An introduction to Generalized Linear Models*, Dobson, A.
- *Generalized Linear Models: With Applications in Engineering and Sciences*, Myers, R.H. and Montgomery, D.C.
- *Generalized Additive Models*, Hastie, T. and Tibshirany,
- *Semiparametric Models*, Ruppert, D. , Wand, M.P. and Carroll, R.

Labs:

There will be practical sessions in the computer-room, the days will be announced in advance.