Statistical Research Methods I

Course objectives
This is an intermediate level course on statistics with a focus upon introducing a number of the most commonly used statistical research techniques. The emphasis is upon giving a sound technical and intuitive understanding of the methodologies, to provide a basis for using the techniques in practice and for critical judgement upon their use by other researchers.

Course content
The course will cover both theory and empirical work, underlining the link between the two. It will be most relevant to students who expect to undertake substantial field work. The following is a tentative list of topics:

- The Power and Significance of Testing
- Sampling Models: Stratified and Clustered Sampling
- Regression Analysis: Linear and Nonlinear Regression, Generalized Linear Models
- Analysis of Variance
- Discriminant and Principal Component Analysis
- Cluster and Factor Analysis

Pre–requisites
The course pre–supposes a basic level of statistics covering distributions, sampling, confidence intervals, correlation and linear regression.

Assessment
Assessment will be by means of graded problem sets, a project, and/or a final exam.