Course Syllabus: STAT 593
Modern Topics in Discrete Multivariate Analysis
Spring Quarter 2008

Time and Location

When: 10:30am-11:50am Tuesday and Thursday
Where: TBA

Instructor

Adrian Dobra
Office: Padelford Hall B-303
E-mail: adobra@u.washington.edu
Office hours: 2:00pm-4:00pm Wednesday

Textbook

Fienberg, S.E. (2007). The Analysis of Cross-Classified Categorical Data (Second Edition), Springer.

Additional Reading

Whittaker, J. (1990). Graphical Models in Applied Multivariate Statistics, John Wiley & Sons.

Course Contents

The first part of this course gives an in-depth coverage of statistical methodology for multi-way contingency tables. Relevant topics include: the structure of discrete data, bounds for cell counts, Markov bases, log-linear models, sampling models, model selection and estimation, regression models, collapsing tables, exact testing. In the second part we will look at graphical models, marginal models, stochastic algorithms, methods for sparse tables, missing data models.

The applications come from social and biological sciences. We will also read many relevant papers.

Prerequisites

The students need the background of an introductory statistics course such as STAT 220 or STAT 311.

Homework, Exams and Grades

I plan to assign a small number of homeworks. There will be a final project that involves the analysis of a dataset.

Communication

You should try to come to the office hours for questions and discussions. You can also email me as needed but please do not expect an immediate reply. Your feedback is welcomed at all times.

Disclaimer

This syllabus is supposed to be an overview of the class. Changes to these rules might occur and you are encouraged to check the course webpage frequently.