STA5208 Linear Statistical Models SPRING 2009

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Days/Time/Room: TT 9:30 - 10:45 OSB 108

Office hours: TT 11:00 am - 12:00 pm


Prerequisite: Statistical inference, and a background in linear algebra at intermediate level. Specifically a knowledge of ML estimation, hypothesis testing and elementary sampling distributions at the level of STA 5327. Occasionally more advanced statistical inference are used, making it ideal, although not essential to assume a course of statistical inference at the level of Bickel and Doksum (2006).

Course description: This course provides a self-contained exposition of the statistical theory of linear models. The approach is to apply the general principles of statistical inference to the linear model, thereby integrating the teaching of linear models in the general statistical education of the student.

Examples of linear models based data analysis will be also given.

Course contents

- simple linear regression model.

- the general linear model

- one sample and one factor ANOVA
• multiple regression models

• analysis of residuals

• ANOVA with two or three factors

**Attendance policy:** Active attendance adds up to 5 bonus points. On the other hand, if you miss at least 3 times in a row, this extracredit is lost.

**Grading:** The course grade will be calculated on the basis of attendance (5%), two midterm exams (30% each) and a final project (35%). The dates of these tests will be announced in class. There will be no make ups. Homework will be assigned and partially discussed in class or at office hours.

**Suggestions for future supplemental study:**
- [http://www.stat.wisc.edu/~yandell/software/sas/linmod.html](http://www.stat.wisc.edu/~yandell/software/sas/linmod.html)

**Disclaimer** This syllabus provides a general plan; deviations may be necessary.