

STATISTICS 203 SYLLABUS

1. COURSE DESCRIPTION

This course introduces statistical regression models with an applied focus. Students will learn the basic concepts behind basic linear and nonlinear statistical models, and apply them to the analysis of real data sets from various fields. A heavy component in the course will be data analysis in R.

2. PREREQUISITES

Basic probability and statistics at the level of Stat 60 and Stat 116. Basic level matrix algebra is also required.

3. TEXTBOOK

Chatterjee and Hadi, Regression Analysis by Example, 4th Edition

REFERENCE:

Weisberg, Applied Linear Regression, 2nd Edition

Neter et al., Applied Linear Statistical Models, 5th Edition

4. TENTATIVE SCHEDULE

Week 1	review, simple linear regression
Week 2	regression diagnostics, multiple linear regression
Week 3	multiple linear regression, ANOVA
Week 4	variable transformations, weighted least squares
Week 5	MIDTERM, correlated errors
Week 6	collinear data, PCA
Week 7	model selection
Week 8	nonlinear models
Week 9	advanced topics
Week 10	review of course, buffer
Week 11	FINAL

5. GRADING

Homeworks	40%
Midterm	20%
Final	40%