PREREQUISITES

The prerequisites for this course include a mathematical statistics course at the level of PSC 404 and mathematical modeling at the level of PSC 407.

COURSE REQUIREMENTS

The requirements consist of problem sets and a three part data analysis project. The problem sets will be divided between analytic and empirical exercises, and all empirical exercises will be performed in R. The course grade will be calculated as follows: problem sets 25%, data analysis part I 25%, data analysis part II 25%, data analysis part III 25%.

COURSE WEBPAGE

http://www.rochester.edu/College/PSC/clarke/405/405.html

TEXTS

The required texts for this course are:

  http://www-personal.umich.edu/~jdinardo/errata.html

- Faraway, Julian. 2002. *Practical Regression and Anova using R*. The accompanying source code and data, are free on the web here:
  http://www.maths.bath.ac.uk/~jjf23/LMR/

For when you need a simpler initial overview, the following lower-level texts may be helpful:


**COURSE SCHEDULE**

01/14: Course Overview and Introduction

- Achen, Ch. 1 and 2.
- Faraway, Ch. 1.

01/19-01/21: Two-Variable Regression in Scalar Notation

- Johnston & DiNardo, Ch. 1.
- Achen, Ch. 3 and 4.

01/26-01/28: Introduction to Matrix Algebra

- Johnston & DiNardo, App. A.
02/02-02/04: Multiple Regression in Matrix Notation

- Johnston & DiNardo, Ch. 3.
- Faraway, Ch. 2, 3, and 7.

02/09-02/11: Specification in Multiple Regression

- Johnston & DiNardo, Ch. 4.
- Achen, Ch. 5 and 6.
- Faraway, Ch. 4, 6, and 10 (ignore the stepwise stuff).

02/12: Part I of the data analysis project is due by 5 PM.

02/16-02/18: ML, GLS, and IV Estimators

- Johnston & DiNardo, Ch. 5.
- Faraway. Ch. 5.

02/23-02/25: No Class. We will reschedule.
03/02-03/04: Heteroscedasticity and Autocorrelation

- Johnston & DiNardo, Ch. 6.
- Faraway, Ch. 7 and Ch. 9 (only the relevant sections).

03/09-03/11: Break

03/16-03/18: Univariate Time Series

- Johnston & DiNardo, Ch. 7.

03/19: Part II of the data analysis project is due by 5 PM.

03/23-03/25: Autoregressive Distributed Lags

- Johnston & DiNardo, Ch. 8.

03/30-04/01: Multiple Equation Models I

- Johnston & DiNardo, Ch. 9.

04/06-04/08: Multiple Equation Models II

- Johnston & DiNardo: Ch. 9.

04/13-04/15: Generalized Method of Moments

- Johnston & DiNardo: Ch. 10.

04/20-04/27: Panel Data, No class 04/22.

- Johnston & DiNardo: Ch. 12.

Part III of the data analysis is due during the final exam period scheduled by the University—unless an extension is previously arranged with the professor.