

ECON 215 – ECONOMETRIC THEORY AND METHODS  
Fall 2011; MWF 12:00

Office: Carswell 106  
Phone: 758-5762  
E-mail: cottrell@wfu.edu  
Webpage: <http://www.wfu.edu/~cottrell/ecn215>  
Office hours: MW 9–10; TR 9–10, 3–5.

Text: J. Wooldridge, *Introductory Econometrics*, South-Western, fourth edition, 2008.

**Objective:** The aim of this course is to give you both a theoretical understanding of the principles of econometrics and some hands-on experience of the possibilities and problems of the subject. Econometrics is concerned with the connection between economic concepts, theories and hypotheses on the one hand, and ‘real world’ economic data on the other. Typical econometric tasks include the quantification of economic relationships (such as demand curves), the precise specification of economic theories, and the testing of hypotheses derived from theory. The main tool for these purposes is regression analysis. We shall review and develop some basic concepts of statistics and probability, leading to an examination of regression analysis, its principles and pitfalls. Once sufficient groundwork is established, we will work with an econometric computer program (*gretl*), first carrying out prepared exercises and then progressing to an original piece of empirical research.

**Assessment:** By the end of classes (Dec 9) I will calculate a provisional grade for each of you based on one midterm exam (30 per cent), class problems and prepared computer exercises carried out over the course of the semester (30 per cent) and an original econometric project which will be due on Monday November 21 (40 per cent). If your econometric project is of ‘B’ standard or better, you may choose to accept this provisional grade as your final grade. Otherwise you must take a final exam, which will then carry a weight of 30 per cent in computing your grade for the course as a whole. Even if you are eligible to omit the final, you may choose to take it (again for a weight of 30%) if you think this might raise your grade. For instance, you may not have done well in the earlier part of the semester, but reckon that your understanding has improved by the end.

Some notes on the project can be found on the class webpage; you will begin to plan this project before Fall Break.

**Syllabus:** We will devote approximately 4 class sessions to each of the following topic headings on average, although some may take somewhat longer than others. You are expected to keep up with the textbook readings; these will be supplemented by handouts on topics which require additional clarification.

1. Introduction and review of probability and statistics  
Handouts; Wooldridge Chapter 1, Appendices B and C
2. The linear regression model  
Wooldridge Chapters 2 and 3
3. Multiple regression: Inference  
Wooldridge Chapters 4 and 6
4. Dealing with qualitative variables (1), independent variables  
Wooldridge Chapter 7
5. Regression specification and heteroskedasticity  
Wooldridge Chapters 8 and 9

**Midterm exam, Wednesday October 19**

**Begin planning of regression project, Wooldridge Ch. 19**

6. Instrumental variables estimation  
Wooldridge chapter 15
7. Issues in time series modeling  
Wooldridge Chapters 10, 11 and 12
8. Dealing with qualitative variables (2), dependent variables  
Wooldridge Chapter 17
9. Methods for panel data  
Wooldridge Chapters 13 and 14