Heinz School
Carnegie Mellon University
Intro to Econometric Theory, 90-906
Spring, 2003-4

Syllabus

Lectures	MW 9:30-10:50, HBH 1002
Instructor	Bill Vogt HBH 2116D, 412.268.1843 wilibear@andrew.cmu.edu
Office Hours	MW 1:30-3:30
TA	Jian Li HBH 243, 412.268.1415 jianl@andrew.cmu.edu
TA Ofc Hours	W 1-3, F 10-12
Textbook	Greene, William H (2000) *Econometric Analysis, 5th edition.* Upper Saddle River, NJ: Prentice Hall. (optional) Delwiche, Lora D. & Susan J. Slaughter (1995) *The Little SAS Book: A Primer.* Cary, NC: The SAS Institute.
Website	http://www.andrew.cmu.edu/course/90-906/index.htm

1 Course Objectives

Our objective is to build a thorough understanding of multivariate linear regression and (time permitting) instrumental variables and discrete dependent variables models.

2 Prerequisites

You are expected to know elementary probability theory, sampling theory, linear algebra, calculus, and bivariate regression. We will briefly review some linear algebra and sampling theory at the beginning of the course, and the book has an excellent review in chapters 1-4. The formal prerequisite is 90-905, an introductory Ph.D. level statistics course, or the consent of the instructor.

3 Grading

The grade will be determined by performance on homework assignments (30%), a midterm (30%), and the final exam (40%). You are primarily responsible for the content of the lectures, including any handouts. You are also responsible for the relevant sections of the book — most likely chapters 1-9,11-13. There are likely to be differences in both content and notation between the lectures and the book.

4 SAS

For our class examples, we will use the statistical package SAS. The optional text for the course is a SAS primer. SAS is a general purpose statistical programming language. It is installed in more than 3 million sites worldwide and is nearly a de facto standard in the manipulation of large datasets. It is to your advantage to learn SAS during this course; although, it is not required. There will be instructional material on the website for SAS.

5 Various Class Policies

5.1 Policy on Cooperation

- You may cooperate as much as you like on homework assignments; however, each individual must submit a separate assignment, and each individual will be separately graded on that assignment.
- You may not cooperate while taking exams.

5.2 Policy on Aids During Exams

- All exams are open book. You may use text, notes, calculators, computers, reference materials, etc.
- You may not communicate or cooperate with anyone on the exam.
- Please do not use the open book policy as a substitute for studying. If you need to look in your book, notes, etc for instructions on HOW TO DO the exam, you will surely run out of time.

5.3 Policy on Format of Assigned Work

- All work must be legible. Illegible is the equivalent of completely wrong.
- Spelling, grammar, style, etc do not "count" per se. However, anything which I (or the TAs) cannot understand is wrong. Poor spelling, grammar, style, etc are often confusing.

5.4 Policy on Lateness

- Due and return dates for assignments are in the syllabus in the schedule section. Unless the instructor or TA announce otherwise, these dates are binding.
- Late assignments are not accepted without either prior arrangement or compelling reason.
- Assignments and homeworks may be picked up from the TA. You are responsible for picking them up. You are responsible for keeping them

to compare against your final grade. I will use whatever grade I have recorded for your work (even if you think there is an error) unless you can show me the graded work so that I can see the error.

- You are responsible for collecting your graded work. Claims by students similar to "I turned in homework #2, but I don't have a copy of it because you did not return it to me!" must be made within one week of the return date of the assignment. If you fail to make the complaint, I will use whatever grade I have in my records.

6 Schedule

Date	Material, Book Sections	Work
	Introduction & Review	
M Jan 12	linear algebra, Appendix A	
W Jan 14	more linear algebra, Appendix A	
M Jan 19	probability & statistics, Appendix B-C	
	Bivariate Regression	
W Jan 21	probability & statistics, Appendix B-C	
M Jan 26	bivariate regression model	HWK 1 assigned
W Jan 28	bivariate OLS	
	Multivariate Regression	
M Feb 2	multivariate linear regression model, ch 2	HWK 1 due
W Feb 4	multivariate OLS, ch 3	
F Feb 6		HWK 1 graded
M Feb 9	OLS estimators, properties, ch 4-5	HWK 2 assigned
W Feb 11	OLS estimators, properties, ch 4-5	
M Feb 16	**No Class, Holiday**	
W Feb 18	inference in regression model, ch 6	HWK 2 due
F Feb 20		HWK 2 graded
M Feb 20	constrained regression, ch 6	HWK 3 assigned
W Feb 23	inference examples	
F Feb 27		
M Mar 1	review/catch-up	HWK 3 due SOL 3 available
W Mar 3	**midterm**	
Mar 8-12	spring break	
M Mar 15	forecasting (prediction), ch 6	
W Mar 17	functional form & specification, ch 7-8	
F Mar 19		HWK 3 graded

Date	Material, Book Sections	Work
M Mar 22	functional form & specification, ch 7-8	
W Mar 24	functional form & specification, ch 7-8	HWK 4 assigned
M Mar 29	non-linearity, structural change, ch 9	
W Mar 31	generalized least squares model, ch 10	HWK 4 due
F Apr 2		HWK 4 graded
M Apr 5	GLS, ch 10	HWK 5 assigned
W Apr 7	FGLS, ch 10	
M Apr 12	heteroskedasticity, ch 11	HWK 5 due
W Apr 14	heteroskedasticity, ch 11	
F Apr 16		HWK 5 graded
M Apr 19	serial correlation, ch 12	HWK 6 assigned
W Apr 21	serial correlation, ch 12	
	Multi-Equation Models	
M Apr 26	seemingly unrelated regressions	HWK 6 due
W Apr 28	review/catch-up	
F Apr 30		HWK 6 graded
May 8-12	finals	