Syllabus | Introduction to Econometrics (code 2952355)
Prof. Jurgen Brauer (to midterm) and Prof. J. Paul Dunne (to final exam)
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Textbooks

1. POE Carter Hill, Griffiths, and Lim (2008). *Principles of Econometrics*. 3rd edition. New York: Wiley & Sons.
2. UEV Griffiths, Carter Hill, and Lim (undated). *Using EViews for Principles of Econometrics, Third Edition*. New York: Wiley & Sons. [Note that this includes the EViews 6 student version of the econometrics program we use in this class. The software comes with a unique serial number. Therefore, each student MUST have his/her own copy of this manual and the software.]

Software

The EViews 6 student version can be installed on any 2, but only 2 (!), computers at a time. For the class, you will install once on the machine in the computer lab and once on your home desk top or laptop computer. Once the class is finished, you can uninstall from the computer lab and reinstall on another 2nd computer. (You may have to email EViews at sales@eviews.com on this, but in our experience, they have always been fast and effective in responding.)

Overview

This course is an *APPLIED* introduction to econometric concepts and techniques. The professors will function as mentors and supervisors rather than as traditional classroom lecturers. We intend to provide brief conceptual summaries of the textbook material and plan to spend by far the majority of the lab time on hands-on use of the econometrics software, basically "looking over your shoulder" to see that things are going alright and that you properly interpret the numbers the software generates. The conceptual overviews may be given at the beginning, in the middle, or at the end of the lab period or, indeed, in a separate handout.

   Your job is to actually *DO* things, and to do them cooperatively in the lab (although your assignments of course must be down on your own; plagiarism and cheating are not tolerated). Learning-by-doing is the general strategy to follow. On your part, this requires considerable self-motivation and perseverance. The day-to-day strategy is (1) to read the assigned POE chapter/s; (2) to read, follow, and do the corresponding step-by-step chapter exercise/s from UEV (mostly in the lab); and (3) to then do the assigned POE exercise/s on your own. For example, POE chapter 2 uses a food expenditure function to explain the concepts and interpretation of a simple linear regression. UEV chapter 2 then uses EViews 6 to show you, step by step, how to employ this econometric software to generate the food expenditure numbers that appear in the POE textbook. Finally, do the assigned end-of-chapter exercise/s on your own. To help you check your work, we assign problems for which answers are provided in POE Appendix D (pp. 548-571). The exams, however, involve exercises for which no answers are provided.

Journal

Note that in POE each chapter opens with a very good set of Learning Objectives. As you read the chapter and do the exercises, keep a journal—a daily account—in which you record, draft, amend, and *CONSOLIDATE* your response to each Learning Objective. Share your journal with other students! Give advice and take advice. The midterm and final review sessions are build around the Learning Objectives, and the midterm and final exam will contain questions taken from these Learning Objectives. The professors will NOT grade your journals. We will grade your exam.

Tentative class schedule [Note: class meeting dates may change due to holidays.]

Week 1 (Brauer)

Tuesday, 1 June 2010, 9:00-12:00
- ▸ Introduction to EViews; im/exporting data; introduction to econometrics; writing an empirical research report
- ▸ POE ch 1; ch 17 | UEV ch1; ch 17

Thursday, 3 June 2010, 9:00-12:00
- ▸ The simple linear regression model
- ▸ POE ch 2; UEV ch 2

Assignment #1: pick one of 2.9, 2.12, 2.14 (see details in the Assignments section on p. 3)

Week 2 (Brauer)

Tuesday, 8 June 2010, 9:00-12:00
- ▸ Assignment #1 due at 9am sharp (must be submitted in person, no exceptions!)
- ▸ Interval estimation and hypothesis testing
- ▸ POE ch 3 | UEV ch 3

Thursday, 10 June 2010, 9:00-12:00
- ▸ Prediction, goodness-of-fit, and modeling issues
- ▸ POE ch 4 | UEV ch 4

Assignment #2: pick one of 3.6, 3.9, 3.11
Assignment #3: pick one of 4.9, 4.11, 4.13

Week 3 (Brauer)

Tuesday, 15 June 2010, 9:00-12:00
- ▸ Assignments #2 and #3 due at 9am sharp
- ▸ The multiple linear regression model
- ▸ POE ch 5 | UEV ch 5

Thursday, 17 June 2010, 9:00-12:00
- ▸ Further inference in the multiple regression model
- ▸ POE ch 6 | UEV ch 6

Assignment #4: pick one of 5.9, 5.11, 5.13
Assignment #5: pick one of 6.10, 6.12, 6.16, 6.18, 6.19

Week 4 (Brauer)

Tuesday, 22 June 2010, 9:00-12:00
- ▸ Assignments #4 and #5 due at 9am sharp
- ▸ Review session (covers the POE chapter Learning Objectives; student presentations; journal sharing)
- ▸ POE chs 1-6 | UEV chs 1-6

Thursday, 24 June 2010, 9:00-12:00
- ▸ Midterm exam

Week 5 (Brauer/Dunne)

Tuesday, 29 June 2010, 9:00-12:00
- ▸ Nonlinear relationships
- ▸ POE ch 7 | UEV ch 7

Thursday, 1 July 2010, 9:00-12:00
- ▸ Problems with OLS
- ▸ Dynamic models, autocorrelation, and forecasting
- ▸ POE ch 9 | UEV ch 9

Assignment #6: pick one of 7.9, 7.12, 7.15, 7.17
Assignment #7: pick one of 9.9, 9.17

Week 6 (Dunne)

Tuesday, 6 July 2010, 9:00-12:00
- ▸ Assignments #6 and #7 due at 9am sharp
- ▸ Nonstationary time series data and cointegration
- ▸ POE ch 12 | UEV ch 12

Thursday, 8 July 2010, 9:00-12:00
- ▸ Heteroskedasticity
- ▸ POE ch 8 | UEV ch 8

Assignment #8: pick one of pick one of 12.3, 12.5
Assignment #9: pick one of 8.10, 8.13, 8.14, 8.15

Week 7 (Dunne)

Tuesday, 13 July 2010, 9:00-12:00
- ▸ Assignments #8 and #9 due at 9am sharp
- ▸ Random regressors and moment-based estimation, simultaneous equations models
- ▸ POE chs10, 11 | UEV chs 10, 11

Thursday, 15 July 2010, 9:00-12:00
- ▸ Qualitative and limited dependent variables
- ▸ POE ch 16 | UEV ch 16

Assignment #10: pick one of 10.5, 10.7
Assignment #11: pick one of 11.7, 11.8
Assignment #12 : pick one of 16.2, 16.3

Week 8 (Dunne)

Tuesday, 20 July 2010, 9:00-12:00
- ▸ Assignments #10, #11, #12 due at 9am sharp
- ▸ Review session (covers the POE chapter Learning Objectives; student presentations; journal sharing)

Thursday, 22 July 2010, 9:00-12:00
- ▸ Final exam

Assignments, grades, and grading

Computer assignments (12 x 3% = 36%)

Each Tuesday, at 9am sharp, you must hand in your assignment. It is a one-page summary, plus an attached, hand-annotated printout of your EViews runs. You must hand in the assignment in person. A sample annotated assignment will be provided. These assignments are graded as **outstanding** (3%), **pass** (2%), **fail** (either 1%, for some effort even if wrong or inadequate, or 0%, for assignments that are late). Even if not required, the more assignments you do, the better for your learning. Running extra exercises, running variations of exercises, trying out things, etc., will boost your confidence with learning the material and will almost certainly boost your exam grade.

Midterm and final exams (32% each)

Note that each chapter starts with a set of Learning Objectives. As you read the chapter, be sure to fully answer all points. Some exam questions will be drawn from the learning objectives. The accuracy and level of detail of your answers will determine your exam grade. You must demonstrate knowledge, not memorized, rote answers. In practice, the 3 hours-long exam will be 1 hour regarding learning objectives (12%), and 2 hours to run two textbook exercises with EViews, obtain the results, and report and interpret them (20%). Instead of a textbook exercise, we may also supply you with other data and instructions to run a model.

Grading and grades

90+% = A; 80-89% = B; 70-79% = C; 60-69% = D; <60% = F.