**Economics 581  Topics in Applied Microeconomics I  Fall 2009**
**Section 18612  T 6-8:40 p.m.  UC 2135**

**Syllabus**
(version 1.3)

**Instructor:** Paul Carlin
**Office:** CA 515
**E-mail:** pcarlin@iupui.edu
**Telephone:** 278-7230
**Office Hours:** TR 3:30-5 pm and by appointment

**Prerequisites:**
The course will presume knowledge of E521 and E570.
(Generally speaking, knowledge of E570 is a more critical prerequisite than knowledge of E521, but both are useful. We will do only a very quick review of basic econometrics.)

The course will focus on empirical analysis in microeconomics, with special emphasis on econometric techniques used in my research areas of interest, the economics of the family, earnings and time allocation.

A subsidiary goal is to introduce you to a specialized software program, **LIMDEP**, that gives you a broader set of software tools that you are familiar with. Whether you are going on for further study or just looking to get a job, knowing more statistical software packages is to your advantage. **LIMDEP** is specially designed to address limited dependent variable econometric estimation. So we will use that in addition to the Stata program you are already familiar with from E570.


**Software:** LIMDEP, version 8.0; Stata version 11.0. (Loaded on the computers in CA 534 and on the machines in the Social Science Computer Classroom (CA 436).

Other textbooks you may wish to consult:

**Greene, William H.** *Econometric Analysis*, Fifth (or later) edition, Prentice-Hall. [doctoral econometrics level]


**Schedule:**

| T  | Sep 1 | Introduction and Models of Time Allocation and the Family (Becker, Gronau, Ashenfelter and Heckman)... |
| T  | Sep 8 | Models of Family Time Allocation II: Bargaining Models of the Family -- online data sets PSID, COPPS, ATUS |
T Sep 15 Econometrics Review Chs. 3-7 [LN4-5] **First hour in SSCC, CA 436**

T Sep 22 I will be in Guangzhou, China negotiating a 2+2 program [and continuing a discussion of 2+3] with Sun Yat-Sen University. We will add ten minutes to each class.

T Sep 29 Econometrics Review [LN5-6] Chs. 8-9  
[Class to be held in BS 3003, computer classroom]

T Oct 06 Instrumental Variables & Endogeneity & 2SLS [LN6-7] Ch. 15  
Sim. Eq. Models [LN 8] Chs. 16  
**Assignment 1 due—Tuesday, Oct. 6th**

T Oct 13 Probit and Logit [LN8-9]MLE [LN9]; Ch. 17
T Oct 20 Tobit [LN 10,10b]; Censored [LN 10C] 
& Truncated Regression Models Ch. 17

T Oct 27 Sample Selection Corrections (Heckit) [LN10d] Ch. 17  
**Midterm Exam —Tuesday, Oct. 27th [chs. 15-17 approx. & notes]—1st half of class.**

T Nov 03 Cross-sections over time: Pooling 
and First-differencing [LN11] Ch. 13  
Fixed and Random Effects Models [LN11b] Ch. 14  
**Student Article Report/Presentations 1-6**

T Nov 10 Fixed and Random Effects Models [Ln 12] Ch. 14  
**Student Article Report/Presentations 7-12**  
(Meet individually with instructor, as needed, to discuss projects)

T Nov 17 Fixed and Random Effects Models [LN12] Ch. 14  
(Progress report on projects)  
**Assignment 2 due—Tuesday, November 17th**


T Dec 01 **EMPIRICAL PROJECT Due... In-class presentation and discussion of what you learned from doing your project--(2.5 hrs./12 presentations) ⇒about 10 minutes per presentation**

T Dec 08 Ordered Probit [LN 15]; Multinomial Logit, etc.[LN 15] and Review

T Dec 15 **FINAL EXAMINATION** (chs. 13-17 and notes on Econometrics topics, Oct 7th through Nov 24th and Dec 8th material – about a third weight on material covered on the midterm and two-thirds
Grading: Grading will be on the usual scale. As with all graduate classes, any grade below a B is an indicator that the student did not demonstrate the minimum competency expected of graduate students. The weighting will be:

2 in-term assignments @ 50 pts. each. These include problems from Wooldridge and computer exercises using Limdep. [Grade based on a random selection by instructor of about half of the problems assigned.]

1 in-class report/presentation on the econometric estimation technique of an article [50 pts.]*

1 midterm exam worth 100 pts.

1 final examination that focuses primarily on econometric techniques and intuitive understanding, worth 150 pts.

1 empirical project worth 100 pts. (See below for more detail.) [95% on quality of written report; 5% on in-class presentation]

EMPIRICAL PROJECT

The empirical project will address:

Option A: One of the empirical issues identified in the discussion concerning empirical models in family economics. A series of regressions and diagnostics will be carried out, using Limdep 8.0 [or Stata], on an appropriate data set.

Option B: A replication of (at least) a portion of the empirical work for some current/recent paper appearing in the Journal of Human Resources (or other journal) that is appropriate for the econometric focus of this course. You must, typically, obtain a copy of the data set from the author of the article. (The JHR typically requires authors to make their data sets available for three years after their article is published.) If choosing this option, you should scan the JHR between now and next week and send a request for the data right away. (There may be unforeseen difficulties or delays.)

Option C: An original question of your choice that relates to family economics. [If you want to go this way, early conversations are strongly advisable.]

The paper, ordinarily about ten pages of written material, in addition to relevant tables, will consist of a discussion of the empirical issues involved in the topic, and a detailed description of the various regression results, diagnostics and final results of your study. (If you anticipate difficulty in finishing the project on time, please talk to me, in advance, about an extension.)

*Article Report [5-10 minutes]

The article should use one or more of the econometric techniques studied in this course. You may choose from one of the articles listed on the next two pages. [From Bill Evans’s
website at Notre Dame]. A suggested structure for the presentation will be forthcoming. Discuss with me one week before your presentation is scheduled.

**Articles to Choose from for In-class Presentation:**

**B. Difference in difference models**


**C. Instrumental Variables**


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### D. Regression Discontinuity design

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<td>Angrist, J.D., V. Lavy</td>
<td>&quot;Using Maimonides' Rule to Estimate the Effect of Class Size on Scholastic Achievement,&quot;</td>
<td>Quarterly Journal of Economics, 114(2), 1999</td>
<td>533-575</td>
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