**Economics 243 Prof. Stephen J. Schmidt**

**Introduction to Econometrics Fall 2017**

**Karp 005 MWF 11:45-12:50**

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**Course Objectives:**

 Econometrics is the study of how economists use data and analysis to apply economic theory to the real world. This course will teach students how to use econometric analysis to make economic measurements and forecasts, and test economic ideas. Students will learn to use regression analysis to estimate models; they will learn how to use the results of those regressions to infer the values of important economic parameters, and to test economic hypothesis about the data. They will learn how to apply these results to drawing conclusions and inferences about economic issues and problems. Students who complete the course will understand the basic principles of empirical economics, which they will then be able to use in upper level economics courses and in their senior theses.

**Prerequisites:**

 Students taking this course should have already taken Economics 101, Introduction to Economics. Students who have not taken that course should not enroll in Economics 243 but should instead take Economics 101. It is very helpful to have taken either Economics 241 or Economics 242 before taking Economics 243, but it is not necessary. There is no mathematics prerequisite for this course, although some algebra and a little bit of calculus will be used.

**Course Requirements:**

 There will be two midterm exams. The first will tentatively be held on September 27th; the second will tentatively be held on October 13th. The dates are subject to change depending on our pace in class. I will announce exact dates at least one week before the exams. There will also be four problem sets, most of which will use Eviews (a computer program to do statistics and regressions). There will be no final exam, but there will be a research paper due in finals week. For this paper, you will collect your own data and use it to perform an original economic analysis. A rough draft of this paper will be due at the start of the ninth week of the course. Based on your rough draft, you will create a summary description of your project for the Nexus site, due in the ninth week of the class, and to prepare constructive comments on the summaries of three other student’s projects, due in the tenth week. Eco 243 is a WAC course. Each of the midterms will count for 15% of your grade; each of the problem sets will count for 10%; the paper, including the summary and comments, will count for the remaining 30%.

**Core Economics Class**

Majors and interdepartmental majors must have a minimum grade of C in each of the courses in the core sequence of Economics 241, 242, and 243 by the beginning of the senior year before taking Economics 498-499, or IDM 498-499 with Economics as one component. Students receiving a grade lower than C in any of the core sequence of Economics 241, 242, and 243 may repeat the core course only once. This requirement applies to students matriculating in Fall 2013 and beyond.

**Textbook:**

 The textbook for this course is Bailey, *Real Econometrics*. It is available at the bookstore.

**Enrollment:**

 Enrollment in Economics 243 is limited to 35 students. Students who registered for the course in preregistration have priority for places in the course. Any remaining spaces will be filled on a first-come, first-serve basis except in unusual circumstances. The class list will be finalized by the third day of class; after that time I will not allow new students to join the class.

**Honor Code**

 See the separate handout on how the honor code applies to Economics 243, particularly the research paper, but also to the problem sets and midterm exams.

**Syllabus**

 This syllabus divides the class material into three sections, and indicates which chapters of the book cover the material in each section. There may be material that is covered in class that is not covered in the book, and vice-versa; you are responsible for all material covered in class, unless I indicate otherwise. The schedule below is ambitious; I hope to cover most of it, but we may not get to all of it, especially some of the extensions of the basic model in Section III.

I. Introduction to Regressions and Fundamentals of Probability

A. Basic Econometric Concepts – Establishing Economic Relationships – Chapter 1, 2

B. Probability – Appendices

II. Least-Squares Regressions

1. The Case of Two Variables – Chapters 3, 4
2. Multiple Variable Models - Chapters 5, 6, 7

III. Common Extensions of the Least Squares Regressions

1. Fixed Effects – Chapter 8
2. Endogenous Variables – Chapters 9
3. Autocorrelation and Time Series – Chapter 13
4. Binary Choice Models – Chapter 12

**And A Small Note of Caution:**

 The economics department has two professors named S. Schmidt; I am Stephen J. Schmidt; my namesake is Shelton S. Schmidt. Shelton Schmidt has often taught Eco 243 in the past. We use our full first names as much as possible; the Registrar’s computers tend to use our middle initials. I am S. J. Schmidt, and Shelton is S.S. Schmidt; it doesn’t usually cause much confusion, but you should be aware of it. (For the curious; we are not related to each other; Schmidt is the German equivalent of Smith, so it’s a fairly common name.) We’re not related (at least not that we know of) and we don’t look anything alike, so it’s easy to tell us apart in person.