COURSE OBJECTIVES:

This course involves the confrontation of economic theory with evidence from the "real world." After successful completion of this course, you will be familiar with the basic techniques of data analysis used by economists. You will know the kinds of questions that each of these techniques is designed to answer, and you will have a basic understanding of how empirically oriented economic research is undertaken. You will have acquired skill in the use of regression analysis, and you will be able to determine the validity of arguments based on regression analysis.

USEFUL PREVIOUS COURSES:

Principles of Economics -- e.g., Economics 2305 & 2306 at Baylor
Introductory Statistics -- e.g., Quantitative Business Analysis 2305, Math 3381 or 4385 at Baylor

READING MATERIALS:

Required Books (available in the Baylor Book Store):


A good little book that you may want to special order from the bookstore (or by some other method) is:


A useful overview of basic statistics is available at:

http://www.tufts.edu/~gdallal/LHSP.HTM
You can gain some historical perspective on what we are doing in this class from the following:


Other econometrics textbooks that may be useful references are:


Most of these books are available in the library, and I also own most of them. If the library does not have it or if it has been checked out by another patron, I may be able to lend you my copy of the book for a while.

I will also provide frequent handouts in class and/or post materials frequently to the web site for the course, which is <http://business.baylor.edu/Steve_Green/Econometrics.htm>.

**SOFTWARE:**

Econometrics involves the interaction of statistical techniques with economic theory. Our primary vehicle for statistical analysis will be *Econometric Views* (“E-Views” for short). EViews is accessible on the Hankamer School of Business Network (in the H:/Eviews subdirectory). You may also purchase a student version of this software at the Baylor Bookstore.

Many other econometric packages are available, including RATS, Shazam, Gauss (for high-powered work), SAS, BMDP, SPSS, etc. While some of these are quite different from others, it is still true that learning how to use a statistical package of any kind is easier when you already know how to use one. Thus learning E-Views is useful not only directly, but also because it will make it easier for you to learn other packages. I have chosen E-Views, because it is very user friendly and has exceptional capabilities with respect to simultaneous equation simulation models.
GRADE DETERMINATION:

At the end of the term I will compute a **FINAL NUMERICAL AVERAGE** based on the following scores:

- EXAM I: 12.5%
- EXAM II: 12.5%
- REGULAR ASSIGNMENTS: 25%
- DATA ANALYSIS PROJECT: 20%
- FINAL EXAM: 20%
- SPECIAL ASSIGNMENTS: 10%

The **FINAL EXAM** will be comprehensive. If you make a higher grade on the final exam than you make on Exam I or Exam II, I will replace your lowest exam grade with the grade you make on your final. I will replace at most one exam grade in this way -- that is, if you have exactly the same grade on Exams 1 and 2 and make a higher grade on the final, I will replace only one of the first two exam grades.

The **DATA ANALYSIS PROJECT** is discussed below.

**REGULAR ASSIGNMENTS** will be given frequently to reinforce and extend the basic concepts covered in class. From time to time I will give you a set of problems. At the end of most class periods, I will assign one or more of these problems, and the assignment will usually be due at our next class meeting. Each problem will be assigned a point value. At the end of the semester I will calculate your "Regular Assignment Average" as the total number of points you have received on the assignments divided by the total number of possible points. Careful work on these assignments will improve your performance on the exams. Please feel free to consult with Ms. Spann or with me about these assignments. Unless I specifically allow you to do so, you may not collaborate with another person on these assignments. See item IIC of the Constitution of the Baylor University Honor System (http://www3.baylor.edu/StudentHandbook/pp_constitution.htm) for the definition of "dishonorable conduct" for which the Honor Council may impose sanctions on the student. In all likelihood, I will explicitly allow collaboration on some assignments.

The **SPECIAL ASSIGNMENTS** will be exercises designed to increase your awareness of the research process and scientific method as it applies to economics. These assignments will involve one or more of the following tasks: (i) replicating the results of a published study; (ii) surveying the literature on a particular topic; (iii) summarizing and evaluating the econometric techniques used in published research studies; or (iv) learning about the various publication outlets for research results.

The **EXAMS** during the semester will be in-class and closed book. I may allow you to bring some notes to the exam with you.

I will **ASSIGN GRADES** on the basis of the distribution of final averages. The “cut-off” for a course grade of “A” will be no higher than 90, for “B” no higher than 80, etc.

In **AWARDING FINAL GRADES**, I normally give "consideration" (i.e., move people up who are close to but below a cut-off point for a higher course grade) for the following: a good grade on the comprehensive final; good class attendance; quality work on most or all of the assignments; good class participation; and improvement over the semester. All such consideration must be fair to other students and is entirely at my discretion.
LATE ASSIGNMENTS, MISSED EXAMS, ABSENCES, TARDIES, CHEATING, etc.

Students sometimes hand in assignments late and/or miss exams. In general, I will penalize your grade any time you hand in an assignment late, with the extent of the penalty increasing the length of the delay. In general, I will give you a grade of "0" on any exam you miss. I will, however, permit a student to hand in an assignment late or take a make-up exam if the reason for the lateness or absence is "excused." A reason is "excused" if two conditions are both met: (1) the student who wants to hand in an assignment late or who does not want to take the regularly scheduled exam contacts me in advance (unless there are extenuating circumstances) and obtains permission to do so. If I cannot be reached, at least leave a message on my Voice Mail or send me an email before the scheduled time for the exam or due date for the assignment. (2) The reason for the late assignment or rescheduled exam is a compelling one, such as being out of town on a Baylor-related trip (letter from sponsor, coach, or advisor required), serious illness (note from health center or personal physician required), death in the family, or severe psychological or other problems. Reasons of the latter type need not be explained to me, but a letter from the Dean of Students may be required at my discretion. Although I reserve the right to consider each case on its own merits, reasons that will not generally be considered compelling include a heavy work load in one of your other courses, a desire to leave campus early (or return late) to have a longer vacation period, etc. (NOTE: The research project qualifies as an "assignment" with respect to this paragraph.)

My tardiness policy is that your first two tardies each count as one-half absence, after which each tardy counts as one absence. You are "tardy" if you enter the room after I have checked the roll. I will never begin checking the roll before 12:30pm. If tardiness becomes a problem for the class, I will be inclined to give very easy pop quizzes at the beginning of class. These quizzes will be graded as a "+" or "-", and your final average for the course will be reduced by 1 percentage point for every "-" grade. If you have a legitimate reason for being habitually late, you should notify me during the first week of class. After I have verified your excuse, we can make appropriate arrangements.

Baylor policy requires me to assign you a grade of "F" for the course if you miss more than 25% of the class meetings. For this class, that means 8 or more absences. If you come to class late after I have checked the roll, it is your responsibility to tell me at the end of the class. If you have a legitimate reason for being frequently absent or tardy, please let me know as soon as possible.

Regarding cheating, I will do everything possible to obtain the most severe penalty for suspected offenders.

THE RESEARCH PROJECT

The most important part of this class is the research project, because it is only in doing econometrics that one learns econometrics. The most difficult part of this kind of project for most students is usually finding a suitable topic.

Essentially, your basic task in the research project will be to estimate, using appropriate techniques, at least one regression equation using real-world data and interpret your results correctly.

As the semester progresses I will provide you hints on choosing a topic, information about intermediate and final due dates, specific requirements, etc. The final draft of your research project write-up will be due near the end of the semester.
COURSE OUTLINE:
(PR denotes the Pindyck & Rubinfeld text, and EV denotes the E-Views Computer Handbook)
An asterisk (*) means that the topic will be covered only if time allows.

I. Getting Started
   A. Introduction to E-Views (EV Introduction)
   B. Review of Basic Statistics (Handout)
   C. Elementary Statistics: A Review (PR, Ch. 2; EV, Ch. 1-2)

II. Basic Regression Analysis
   A. Introduction to the Regression Model (PR, Ch. 1)
   B. The Two-Variable Regression Model (PR, Ch. 3; EV, Ch. 3)
   C. The Multiple Regression Model (PR, Ch. 4; EV, Ch. 4)

EXAM I: Tuesday, September 30 (tentative)

III. Single-Equation Regression Models
   A. Using the Multiple Regression Model (PR, Ch. 5; EV, Ch. 5)
   B. Serial Correlation and Heteroscedasticity (PR, Ch. 6; EV, Ch. 6)
   C. Instrumental Variables and Model Specification (PR, Ch. 7; EV, Ch. 7)
   D. Forecasting with a Single-Equation Regression Model (PR, Ch. 8; EV, Ch. 8)
   E. Single-Equation Estimation: Advanced Topics (PR, Ch. 9; EV, Ch. 9)

EXAM II: Tuesday, November 11 (tentative)

III. Single-Equation Regression Models (continued)
   * A. Nonlinear and Maximum-Likelihood Estimation (PR, Ch. 10; EV, Ch. 10)
   B. Models of Qualitative Choice (PR, Ch. 11; EV, Ch. 11)

IV. Multi-Equation Models
   A. Simultaneous Equation Estimation (PR, Ch. 12; EV, Ch. 12)
   B. Introduction to Simulation Models (PR, Ch. 13; EV, Ch. 13)
   * C. Dynamic Behavior of Simulation Models (PR, Ch. 14; EV, Ch. 14)

III. Time-Series Models
   * A. Smoothing and Extrapolation of Time Series (PR, Ch. 15; EV, Ch. 15)
   B. Properties of Stochastic Time Series (PR, Ch. 16; EV, Ch. 16)
   * C. Linear Time Series-Models (PR, Ch. 17; EV, Ch. 17)
   * D. Estimating and Forecasting with Time-Series Models (PR, Ch. 18; EV, Ch. 18)
   * F. Applications of Time-Series Models (PR, Ch. 19, EV, Ch. 19)

FINAL EXAM: Thursday, May 8, 8:00am
IMPORTANT DATES:

January 20: Martin Luther King, Jr. – University Holiday
January 21: Last day for graduate students to file for May 2003 commencement
January 22: Last day to register or add a class
January 24: Classes are cancelled for all students who have not completed financial settlement
February 10: Courses dropped after this date will be recorded as WP or WF, according to the report of the professor
February 11 (Tuesday): Exam I (tentative)
March 7: Deficiency reports due in Registrar's Office
March 8-16: Spring Break
March 18: Courses dropped after this date will be recorded as failed
April 10: Diadeloso
March 25 (Tuesday): Exam II (tentative)
April 18-21: Easter Holiday
May 2 (Friday): Research Project Due at 5pm
May 5: Last day of classes for the semester; Computer labs in Hankamer close
May 6-7: Study days
May 8-14: Final Examinations (includes Saturday, May 10)
May 8 (Thursday): Final Exam (8:00am - 10:00am)
May 17: Commencement

The dates for Exam I and Exam II should be regarded as tentative. I will notify you at least one week in advance of any change in an exam date. If an exam date is changed, it will probably be moved to a later day. There is only a small chance that an exam date will be changed to an earlier day. I also reserve the right to change the Term Paper Due Date. The Final Exam date and time is set by university policy and therefore are not subject to change. You must take the Final Exam at the regularly scheduled time.

GENERAL DISCLAIMER

The policies outlined above should be adequate for most contingencies we are likely to encounter this semester. There is some possibility, however, that a policy stated above will not be the best policy in some kind of exceptional circumstance. For that reason, I hereby reserve the right to amend any policy in this syllabus if in my judgment circumstances warrant that modification. Any such modification is entirely at my discretion.