ECON 4838 Syllabus
Microcomputer Applications in Economics
Fall 2002

Professor: Jose J. Canals-Cerda.
Office: Econ 103
Phone/Voicemail: 303-492-7869
E-mail: jose.canals-cerda@colorado.edu

Class meets on Tuesdays and Thursdays 9:30 to 10:45.
Classroom: HUMN 1B45
(The information in this syllabus is subject to change).

Course Objectives.

This class will help you to: 1) develop your ability to work with a complex statistical package, SAS; 2) gain experience in working with economic data; (3) gain an understanding of how to use data to analyze relevant economic questions; and (4) develop your ability to formulate the empirical framework to analyze relevant economic questions.

This class requires many hours of hard work and programming from your part. The best formula for success in this class is continuous work during the semester.

Text and Other Materials.

There is an assigned book:


There is no single book appropriate for this class. The book that I recommend is an excellent tool for learning SAS. It has been written by statisticians. Because some of the techniques used by statisticians are rarely used by economists (the opposite is also true) some of the chapters of the book will not be covered in this class.

Additional material will be posted in the class web page:
This web page will be used as an interactive learning tool over the semester. You should plan to visit it very often.

Additional readings may be added as the need arises. These readings may include, for example, articles published in newspapers, magazines or professional journals addressing issues of interest for the course.

**How to contact me.**

Office Hours and by appointment: My office hours are Tuesdays and Thursdays from 11:00 a.m. to 12:00 p.m. I will be in my office Tuesdays and Thursdays most of the day, you can talk to me these days at any time if I am available. At any other time, it is best if you make an appointment (by e-mail or phone).

**Homework and Exams.**

There will be several problem sets and quizzes during the term. No late homework will be accepted. The problem sets are designed to give the students the opportunity to review and enhance the material learned in class. Students are encouraged to work in groups of up to 3 students, but students are also allowed to work alone. Each group will provide a single solution to the homework. All the students in the same group will receive the same grade. In addition, there will be a midterm and a final. The midterm and final examinations usually consist of a research project and will be scheduled in class.

**Grading.**

The grade for a missed homework is zero. The final grade for the class will be a weighted average of the problem sets (20%), a midterm examination (15%), class participation (10%), class assistance (10%) and a final exam (45%). There are no extra credit opportunities.
**Class Attendance.**

My experience is that most students are not able to understand the course material unless they attend the lectures regularly. Students that do not attend the lectures regularly perform poorly and disrupt the normal progress of the course. Also, each year I am forced to reject students on waiting list that are genuinely interested in this course. For these reasons, attendance in this class is mandatory. You can miss up to two lectures over the whole semester without providing explanation. Please keep in mind that missing lectures regularly will have a strong negative impact on your final grade.

**Prerequisites.**

Familiarity with Windows 98 (or similar) operating system will be very helpful. Previous course-work in statistics or econometrics may also be helpful.

**Students with Disabilities.**

This University abides by Section 504 of the Rehabilitation Act of 1973, which stipulates that no student shall be denied the benefits of an education "solely by reason of a handicap." Disabilities covered by law include but are not limited to learning disabilities and hearing, sight or mobility impairments. If you have specific physical, psychiatric, or learning disabilities and require accommodations, please let me know early in the semester so that your learning needs may be appropriately met. You will need to provide documentation of your disability to the Disability Services Office in Willard 322 (phone 303-492-8671).

**Additional Information.**

Please, send me a brief email message with your name and with the subject "ECON4838 Student." Be aware that most of the course announcements will be done using e-mail. Therefore, it is important that you send this email to me as soon as possible.
Course Outline.

1. Introduction.
   - Cody and Smith Chapter 1: "A SAS Tutorial."
   - Class notes.

2. Describing Data, a First Look.
   - Cody and Smith Chapter 2: "Describing Data."
   - Cody and Smith Chapter 3 (A-G): "Analyzing Categorical Data."
   - Cody and Smith Chapter 12: "The Sas Input Statement."
   - Class notes.
   - Empirical Analysis:
     o Population at Risk and Death Rates for an Unusual Episode.
     o McGwire and Sosa: Breaking Baseball's Most Famous Record.
     o Analysis of Wage Data.

3. Working with External Files.
   - Cody and Smith Chapter 13: "External Files: Reading and Writing Raw and System Files."
   - Cody and Smith Chapter 14: "Data Set Subsetting, Concatenating, Merging, and Updating."
   - Cody and Smith Chapter 15: "Working with Arrays."
   - Class notes.
   - Empirical Analysis:
     o The Effects of Rising Female Labor Supply on Male Wages.

- Cody and Smith Chapter 5: "Correlation and Regression."
- Cody and Smith Chapter 9: "Multiple-Regression Analysis."
- Class notes.

- **Empirical Analysis:**
  - Fitting Percentage of Body Fat to Simple Body Measurements.
  - Pay for Play: Are Baseball Salaries Based on Performance?
  - Analyzing Determinants of Wages.


5.a. Simulating data.

- Cody and Smith Chapter 17: "A Review of SAS Functions."
- Class notes.

- **Empirical Analysis:**
  - Designing a computer generated lottery.
  - How to Approximate Pi Using Random Numbers.
  - Including Irrelevant Variables in a Regression Model.
  - Simulating the Effects of Omitted Variables and Measurement Error Bias in a Regression Model.

5.b. Working with Longitudinal Data.

- Cody and Smith Chapter 4: "Working with Date and Longitudinal Data."
- Cody and Smith Chapter 17: "A Review of SAS Functions."
- Class notes.

- **Empirical Analysis:** Premarital Fertility in the U.S.

6.a. Discrimination:

- The Role of Premarket Factors in Black White Wage Differences.
- Customer Racial Discrimination: The Case of Baseball.

6.b. Social Security:

- The effect of old age assistance on retirement.
- The effect of old age assistance on the Living Arrangements of Elderly People.

Other topics: If there is any time left we will cover other interesting research topics.