

ECON 218

Econometrics I

2004 Semester I

Schedule: Monday and Wednesday 1:00-3:00 p.m.

Classroom: AU 204

Professor: Norman Offstein

Email: noffstei@uniandes.edu.co

Office hours: Wednesday 3:00-5:00 p.m.

1. Objectives

The main objective of the course is to introduce the students to data analysis using the simple and multiple regression methodology. By the end of the course, the student should be able to manipulate data using an econometrics software package (for example, Stata) and analyze and interpret the results.

2. Organization

The course begins with an introduction to the concept of econometrics, a short statistical review and the introduction of the simple linear regression. The procedure of ordinary least squares is introduced, along with the necessary assumptions. The linear regression with multiple variables is then presented, followed by dummy variables and cases where the assumptions may not hold.

In addition to the four hours per week for the course, all students must complete the “taller de econometría.” Although the econometrics lab requires separate registration and is taught by a different professor, the grade for the taller is considered part of this course. The main objective of the taller is the application of topics presented in the class and familiarization with several statistical packages.

3. Homework and exams

During the semester there will be approximately six (6) homework assignments. The students may work in groups of TWO (2) if they like. Homework completed in groups larger than two will receive a lower grade. The students may work with the statistical package of their choice, but the majority of examples in class will be with Stata.

The course will have two midterm exams and one final exam. The final exam is joint with the other econometrics sections (Harold and Ramon).

4. Textbooks

The course text is:

Wooldridge, Jeffrey M. (2002), *Introductory Econometrics: a modern approach*, South-Western College Publishing, Second Edition. (W)

Additional texts

Gujarati, Damodar N., (1995), *Basic Econometrics*, 3rd ed., McGraw Hill, New York (G)

Novales, Alfonso (1997), *Econometría*, McGraw Hill, Bogotá

Hill, R. Carter, William E. Griffiths, y George G. Judge (2001) *Undergraduate Econometrics*, 2nd ed., John Wiley & Sons, New York.

William E. Griffiths, R. Carter Hill, George G. Judge (1993), *Learning and Practicing Econometrics*, John Wiley & Sons, New York.

5. Course content by topic

1. Introduction (Chap. 1 W)
2. Basic probability concepts
3. The simple linear regression and assumptions; derivation of the model (Chap. 2 W)
4. Statistical properties of the simple linear model, Gauss-Markov (Chap. 2 W)
5. Multiple regression model, statistical inference, hypothesis testing with the t test, type I and II errors, p value (Chap. 3-4 W)
6. Multiple regression model, assumptions revisited (Chap. 4 W)
7. R^2 , scaling data, functional form (Chap. 6 W)
8. Midterm 1
9. Multiple regression model in matrix form (Chap. 9 G)
10. F test, omitted variables, irrelevant variables and multicollinearity (Chap. 4 G)
11. Maximum likelihood (Chap. 4 and Appendix 4A G), Likelihood Ratio, Lagrange and Wald tests
12. Dummy variables (Chap. 7 W)
13. Midterm 2

14. Heteroskedasticity (Chap. 8 W)
15. Autocorrelation (Chap. 12 W)
16. Random regressors, estimation with instrumental variables (Chap. 15 W and Chap. 13 HGJ)
17. Time series econometrics, stationarity, unit roots and cointegration (Chap. 10 W)
18. Final exam

6. Grades

The course grade is based on the exams, homeworks and the final grade of the “taller de econometría” course. The dates and percentages are the following:

Exam Dates

Midterm 1	February 18
Midterm 2	March 31
Final Exam	periodo de exámenes

Grade Percentage Distribution

Taller de econometría	15%
Homework	10%
Midterm 1	25%
Midterm 2	25%
Final Exam	25%

Grade approximation will occur at intervals of 0.25, meaning that a grade of 3.75 will be approximated to a 4 and a 3.74 to a 3.5.