



Graduate
Program
in Economics

Course: **Econometrics II**

Faculty: Michael Creel

Term: Spring

E-mail: Michael.Creel@uab.es

Web page: <http://pareto.uab.es/mcreel/Econometrics>

Office Hours: Upon request

Description:

Second half of the required first year course in econometrics. Presents some fundamentals (extremum estimators, ML, GMM) and then surveys a number of topics in econometrics.

Objective:

* To first gain a good understanding of fundamental tools, and then a broad perspective of additional topics in econometrics.

* practical experience with econometric methods and data, through assignments involving a fair amount of work with computers. Students may prepare by learning the basics of Matlab (\$) /GNU Octave (free) ahead of time.

Outline:

1. Extremum estimators

- (a) theory
- (b) methods

2. Maximum likelihood

- (a) definition
- (b) consistency and asymptotic normality
- (c) efficiency

(d) likelihood ratio test

(e) examples

3. Generalized Method of Moments

(a) definition

(b) estimation

(c) asymptotic properties

(d) extensions

(e) examples

4. Introduction to time series analysis

(a) stationarity and ergodicity

(b) ARMA models

(c) VAR models

(d) ARCH models

(e) State space models

(e) nonstationarity and cointegration

5. Additional topics in econometrics

(a) panel data

(b) Bayesian methods

(c) simulation-based estimation

(d) nonparametric methods

(e) quantile methods

References:

* my lecture notes, available on the web page

* Cameron, A.C. and P.K. Trivedi, Microeconometrics - Methods and Applications

* Davidson, R. and J.G. MacKinnon, Econometric Theory and Methods

* Gallant, A.R., An Introduction to Econometric Theory

* Hamilton, J.D., Time Series Analysis

* Hayashi, F., Econometrics

Grading:

* 3 problem sets (20%)

* final exam (80%)