

**ECONOMETRICS - PART I**  
(Prof. Matteo Manera)  
**Hours: 18( lectures) + 6 (tutorials)**

**1. Introduction**

**2. Linear regression models**

Ordinary Least Squares

The linear regression model

Gauss Markov assumptions and small sample properties of the OLS estimator

Hypothesis testing

Asymptotic properties of the OLS estimator

Heteroskedasticity

**3. Endogeneity, Instrumental Variables and GMM**

Endogeneity, reverse causality, omitted variables bias and measurement error

The Instrumental Variables estimator

The Generalised Instrumental Variables estimator

The Generalised method of Moments

**4. Maximum likelihood estimation**

Introduction to Maximum Likelihood

Specification tests

**Proposed references**

Greene, W.H. (2000), *Econometric Analysis*, Prentice-Hall.

Hayashi, F. (2000), *Econometrics*, Princeton University Press.

Verbeek, M. (2008), *A Guide to Modern Econometrics*, Wiley.