Course	Code
Statistics II (Estadística II)	25038

Year	Cicle	Quarter
2004-2005	1	February-June

Group	Professor	Office	Phone
2 (Theory)	Xavier Vilà	B3-198-A	93 581 2191
2 (Exercises)	Tahir Ozturk	B3-	93 581

COURSE CONTENTS

COURSE OFFICIAL DESCRIPTOR

Sampling Theory, Estimation and Hypothesis tests, Correlation and Regression analysis.

COURSE MAIN GOALS

This course introduces some of the main techniques for statistical inference such as sampling, estimation, and hypothesis testing. These techniques are extensively used in many fields in economics. A formal introduction to regression analysis, which is the basis for econometrics, will be given in the last part of the course.

PREREQUISITES

"Mètodes Matemàtics de l'Economia I", "Mètodes Matemàtics de l'Economia II", "Estadística I".

METHODOLOGY

Two theory lectures and one consisting of exercises each week.

DETAILED OUTLINE OF THE COURSE

1.- SAMPLING THEORY.

    1.1.- Introduction: Population, sample, parameter, estimate, and statistical inference.
    1.2.- Sampling types.
    1.3.- Sampling distributions.
    1.4.- The Central Limit Theorem.

2.- ESTIMATION.

    2.1.- Introduction: General criteria for estimation.
    2.2.- Properties of estimators.
    2.3.- Point estimation.
    2.4.- Confidence intervals.
    2.5.- The maximum likelihood method.
    2.6.- The Cramer-Rao bound.

3.- HYPOTHESIS TESTING.

        3.1.- Introduction and basic ideas.
        3.2.- Classes of hypothesis tests.
        3.3.- Error types.
        3.4.- Two-sample tests.
        3.4.- The Analysis of Variance (ANOVA).

4.- CONCORDANCE AND CORRELATION ANALYSIS

        4.1.- Relation and causality between variables.
        4.2.- A general test of concordance.
        4.3.- Correlation analysis: Correlation coefficient and hypothesis testing.

5.- SIMPLE REGRESSION ANALYSIS.

        5.1.- Introduction: Theoretical Model and Empirical Model.
        5.2.- Estimation: Ordinary Least Squares method.
        5.3.- O.L.S. Properties.
        5.4.- Confidence intervals and hypothesis testing.
        5.5.- Goodness of fit.

BIBLIOGRAPHY

Basic

- ALEA, M.V i altres, *Estadística Aplicada a les Ciències Econòmiques i Socials.* McGraw-Hill i Edicions Universitat de Barcelona. 1999. (Temes 1, 2 i 3)
- CANAVOS, G.C., *Probabilidad y Estadística.* McGraw-Hill.
- THOMAS, J.J., *Introducción al análisis estadístico para economistas.* Boixareu, ed. (Temes 4 i 5)
- CUADRAS, C.M., *Problemas de probabilidades y estadística.* Promociones Publicaciones Universitarias.
- DURÁ PEIRÓ, J.M. y LOPEZ CUÑAT, J.M., *Fundamentos de estadística.* Ariel.
- PEÑA SÁNCHEZ DE RIBERA, DANIEL., *Estadística Modelos y métodos.* Alianza. 1995

Some English books at the library

- DeGROOT, MORRIS H., *Probability and statistics.*
- WONNACOTT, THOMAS H., *Introductory statistics.*

COURSE EVALUATION

Final exams in June and September, in the dates approved by the "Comssió de docència de la facultat".

OFFICE HOURS

PROFESSOR	OFFICE HOURS
Xavier Vilà Xavier.Vila@uab.es	Tuesday 12:00 – 13:30 Wednesday 10:30 – 12:00
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