X73 QUANTITATIVE METHODS IN BUSINESS

COURSE OUTLINE

1. GENERAL

SCHOOL	ECONOMIC SCIENCES		
DEPARTMENT	ECONOMICS AND SUSTAINABLE DEVELPOMENT		
LEVEL OF STUDY	*Undergraduate*		
COURSE UNIT CODE	X73	**SEMESTER OF STUDY**	7th
COURSE TITLE	Quantitative Methods in Business		

COURSEWORK BREAKDOWN	TEACHING WEEKLY HOURS	ECTS Credits
Lectures, Lab, Exercise	**4**	**7.5**

COURSE UNIT TYPE	Compulsory
PREREQUISITES :	
LANGUAGE OF INSTRUCTION/EXAMS:	English
COURSE DELIVERED TO ERASMUS STUDENTS	YES (English)
MODULE WEB PAGE (URL)	

2. LEARNING OUTCOMES

Learning Outcomes

The course introduces statistical theory and methods to prepare students for the remainder of the econometrics sequence. The emphasis of the course is to understand the basic principles of statistical theory. All methods studied in the course are implemented using SPSS.

After successful attendance of the course the students will be able to:

- Use methods for parameter estimation.
- Compute confidence intervals.
- Perform hypothesis testing.
- Use linear regression.

General Skills

- Retrieve, analyse and synthesise data and information, with the use of necessary technologies.
- Make decisions.
- Advance free, creative and causative thinking.

3. COURSE CONTENTS

1) Random samples and asymptotic methods (laws of large numbers and central limit theorem)
2) Point estimation.
3) Evaluation of estimators (Unbiasedness, sufficiency, consistency, and the Cramer-Rao theorem).
4) Methods of Moments, Maximum Likelihood.
5) Interval estimation.

6) Hypothesis tests.
7) Linear regression analysis (regression in economics, best linear predictor)

4. TEACHING METHODS - ASSESSMENT

MODE OF DELIVERY	Lectures in the classroom
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY	Power Point Presentations. SPSS. Moodle e-learning platform.
TEACHING METHODS	*(see table below)*

Method description	Semester Workload
Lectures	39
Problem Solving using the SPSS	13
Personal Study	128
Total	*180*

ASSESSMENT METHODS	Written Examination 100%.

5. RESOURCES

Recommended Book Resources:

1. Larsen, R., and M. Marx. *Introduction to Mathematical Statistics and Its Applications. 4th ed*. Upper Saddle River, NJ: Pearson Prentice Hall, 2005. ISBN: 9780131867932.

2. DeGroot, Morris H., and Mark J. Schervish. *Probability and Statistics*. 3rd ed. Boston, MA: Addison-Wesley, 2002.

3. Wackerly, Dennis D, William Mendenhall, and Richard L. Scheaffer. Mathematical Statistics with Applications. Belmont, CA: Thomson Brooks/Cole, 2008.