X53 ECONOMETRICS

COURSE OUTLINE

1. GENERAL

SCHOOL	ECONOMIC SCIENCES			
DEPARTMENT	ECONOMICS & SUSTAINABLE DEVELOPMENT			
LEVEL OF STUDY	*Undergraduate*			
COURSE UNIT CODE	X53	**SEMESTER OF STUDY**		5th
COURSE TITLE	ECONOMETRICS			
COURSEWORK BREAKDOWN		**TEACHING WEEKLY HOURS**		**ECTS Credits**
	Lectures	2		
	Exercises	1		
		3		7.5
COURSE UNIT TYPE	SCIENTIFIC AREA			
PREREQUISITES :	n/a			
LANGUAGE OF INSTRUCTION/EXAMS:	English			
COURSE DELIVERED TO ERASMUS STUDENTS	YES			
MODULE WEB PAGE (URL)				

2. LEARNING OUTCOMES

Learning Outcomes
On successful *completion of this module students* will be able to: • Design and estimate a model of linear regression. • Use an econometric software package (e.g. E-views) in the implementation of econometric techniques. • Critically evaluate and assess econometric models and their results. • Critically evaluate and assess the results of diagnostic tests.
General Skills
On successful *completion of this module students* will gain the following general skills: • Critical assessment • Decision making • Data and information analysis with the use of technology • Working in groups, teamwork

3. COURSE CONTENTS

Econometrics is based on the science of Economics, Statistics, and Mathematics. Its scope is the measurement and empirical testing of economic relations. The course aims to familiarize the students of the Department of Economics in using econometric techniques to estimate economic models using a computer and special for this purpose software packages (eg E-Views).

Suggested Module Content:
• Introduction to Econometrics
• Single-Equation Regression Models

- o Two-variable regression model: Basic concepts, model estimation, Ordinary Least Squares Method (OLS), Coefficient of Determination.
  - o Classical Normal Linear Regression Model (CNLRM)
  - o Two-variable regression model: Interval estimation and hypothesis testing.
  - o Extensions of the two-variable linear regression model
  - o Multiple Regression Analysis: The problem of estimation; The problem of Inference
  - o Dummy Variable Regression Models
- Relaxing the assumptions of the classical model and diagnostic tests of residuals.
  - o Normality assumption of residuals
  - o Multicolinearity
  - o Heteroskedasticity
  - o Autocorrelation

4. TEACHING METHODS - ASSESSMENT

MODE OF DELIVERY	Class contact
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY	- Dynamic PowerPoint presentations - e-class support - Communication via e-mail and course discussion group - Use of Econometric software (e.g. E-views)

TEACHING METHODS	Method description	Semester Workload
	lectures	26
	Exercises	13
	Self-directed learning	139.5
	Course total (25 hours of work load per credit)	187.5

ASSESSMENT METHODS	3. Final examination **(weighting 50%)** that contains: 　3.1. Theory evaluation 　3.2. Problems 4. Group Assignment involving the use of econometric software **(weighting 50%).** Notes: The assessment procedure and the assessment criteria will be available on the module's e-class web-page.

5. RESOURCES

- Recommended Book Resources:
- Gujarati D., (2003), Basic Econometrics. Economic series. McGraw-Hill international editions: Economic series .McGraw Hill . Edition 4
- Wooldridge J., (2019) Introductory Econometrics: A Modern Approach. South-Western College Publishing; 7th edition
- Stock J, Watson MW. Introduction to Econometrics. New York: Prentice Hall; 2003.

- Indicative Reading list - Journals:

- Econometrica
- Journal of Econometrics
- Econometric Reviews
- Quantitative Finance
- Journal of Empirical Finance
- Econometrics Journal
- Journal of Applied Econometrics
- Advances in Econometrics
- Journal of Time Series Econometrics
- Econometrics (MDPI)
- Foundations and Trends in Econometrics
- International Journal of Computational Economics and Econometrics