■ CE712 - Econometrics

GENERAL

SCHOOL	EXACT SCIENCES
DEPARTMENT	MATHEMATICS
LEVEL OF STUDIES	UNDERGRADUATE
COURSE CODE	CE712

COURSE CODE	CE712	**SEMESTER**	G
COURSE TITLE	ECONOMETRICS		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**ECTS**
Lectures	4	6

COURSE TYPE	General Knowledge
PREREQUISITE COURSES	-
LANGUAGE OF TEACHING AND EXAMINATIONS	Greek/English
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	http://eclass.uowm.gr/

LEARNING OUTCOMES

Learning Outcomes
With the successful completion of the course, the students will acquire knowledge and skills that will enable them to: - design and estimate a linear regression model,   - use an econometric software package (e.g. E-views) in the application of econometric techniques,   - evaluate econometric models and their results,   - evaluate results of diagnostic tests.
General Competencies

- Search for, analysis and synthesis of data and information, with the use of the necessary technology.
- Decision making.
- Criticism exercise.
- Production of free, creative and inductive thinking.

CONTENT OF THE COURSE

Econometrics as a subject is based on the sciences of Economics, Statistics and Mathematics. Its purpose is the measurement and empirical control of economic relationships. The course aims to familiarize students with the use of econometric techniques to estimate economic models using econometric software packages (eg E-Views).

Suggested course material:
- Introduction to econometrics.
- Single equation regression models.
    - Bi-variate regression model: Basic ideas, model estimation, the method of least squares (OLS), coefficient of determination.
    - Classical normal linear regression model (CNLRM).
    - Bi-variate regression: interval estimation and hypothesis testing.
    - Extensions of the Bi-variate Linear Regression Model.
    - Multiple regression analysis: The problem of estimation, The problem of induction.
    - The use of dummy variables.
- Violation of assumptions of the classical model and residual diagnostic tests.
    - Normality.
    - Multicollinearity.
    - Heteroscattering.
    - Autocorrelation.

TEACHING AND LEARNING METHODS - EVALUATION

TEACHING METHOD	In the classroom.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	PowerPoint presentations. Learning process support through the e-class electronic platform. Communication via e-mail and course discussion group. Use of econometric software (eg E-views).

TEACHING ORGANIZATION	Activity	Semester Workload
	Lectures	52 hours

	Individual Study	98 hours
	Course Total (25 hours per ECTS)	150 hours

STUDENT EVALUATION	1. Written final exam (50%) which includes:
	   1.1. Multiple choice questions.
	   1.2.Evaluation of theory elements.
	   1.3. Solving Exercises.
	2. Group Laboratory work (50%)
	
	Remarks:
	The evaluation process and evaluation criteria will be posted on the course website in the e-class.	

RECOMMENDED BIBLIOGRAPHY

-Suggested Bibliography:
1. Gujarati D., (2012), Econometrics, Principles and Applications, A. TZIOLA & SONS PUBLICATIONS S.A. (Greek)
2. Dritsaki, Ch., and Dritsaki, M., (2013), Introduction to econometrics using EViews software, Publications KLEIDARITHMOS Ltd. (Greek)
3. Wooldridge J., (2011) Introduction to econometrics, A. PAPAZISIS PUBLICATIONS SOLE PRIVATE EQUITY COMPANY. (Greek)

-Indicative list of related scientific journals:
1. Econometrica
2. Journal of Econometrics
3. Econometric Reviews
4. Quantitative Finance
5. Journal of Empirical Finance
6. Econometrics Journal
7. Journal of Applied Econometrics
8. Advances in Econometrics
9. Journal of Time Series Econometrics
10. Econometrics (MDPI)
11. Foundations and Trends in Econometrics
12. International Journal of Computational Economics and Econometrics
13. Applied Financial Economics