

COURSE OUTLINE

(1) GENERAL

SCHOOL	Polytechnic School		
ACADEMIC UNIT	Department of Financial and Management Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	OI0114	SEMESTER	5 th
COURSE TITLE	Econometrics		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		WEEKLY TEACHING HOURS	CREDITS
		3	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	General Background		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)	http://www.fme.aegean.gr/el/c/oikonometria		

(2) LEARNING OUTCOMES

Learning outcomes <i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i> <i>Consult Appendix A</i> • Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area • Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B • Guidelines for writing Learning Outcomes
The objective of the course is twofold. On one hand, to introduce student to Econometrics underlying principles and on the other hand the deep understanding of its meanings and how they are applied in solving theoretical and practical problems. In addition, it is sought the acquisition of the prerequisite background for understanding subsequent courses of the study cycle, but also the linkage of the field of knowledge with acquired knowledge and concepts that have been encountered earlier in the study cycle. Upon successful completion of the course, the student will be able to: ✓ specify and choose an econometric model ✓ estimate the coefficients of the linear regression model ✓ test, examine and evaluate an econometric model

✓ evaluate and fix problems related to the violation of the classical model assumptions ✓ use R package for applying econometric techniques	
General Competences <i>Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?</i>	
<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i> <i>Adapting to new situations</i> <i>Decision-making</i> <i>Working independently</i> <i>Team work</i> <i>Working in an international environment</i> <i>Working in an interdisciplinary environment</i> <i>Production of new research ideas</i>	<i>Project planning and management</i> <i>Respect for difference and multiculturalism</i> <i>Respect for the natural environment</i> <i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> <i>Criticism and self-criticism</i> <i>Production of free, creative and inductive thinking</i> <i>.....</i> <i>Others...</i> <i>.....</i>
✓ Search for, analysis and synthesis of data and information, with the use of the necessary technology ✓ Decision-making ✓ Working independently ✓ Teamwork ✓ Production of free, creative, and inductive thinking	

(3) SYLLABUS

1. The principles of econometric modeling 2. The classical linear model and its assumptions 3. The OLS estimator in multiple regression, OLS estimator properties 4. The sampling distribution of the OLS estimators, Gauss-Markov Theorem 5. Analysis of variance, coefficient of determination as a measure of fit 6. Hypothesis tests and confidence intervals in multiple regression 7. Extensions of the linear model: nonlinear regression models and models with dummies 8. Multicollinearity 9. Violating the assumption of the normality of the error distribution 10. Heteroscedasticity (the nature of the problem, reasons, consequences, identification, and fixes)

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>		
TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational</i>	Activity	Semester workload
	Lectures	39
	Laboratory practice	30
	Study and analysis of bibliography	81

<i>visits, project, essay writing, artistic creativity, etc.</i> <i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>		
	Course total	150
STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i> <i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	Final Exam (80%) and laboratory assignments (20%)	

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography: 1. Christou G., <i>Introduction to Econometrics</i>, Vol.A', Gutenberg (in Greek) 2. Chalkos G., <i>Econometrics. Theory and Practice</i>, Minitab, SPSS & Excel», Gkiouras (in Greek) 3. Kintis A., <i>Applications of econometrics</i>, Sblias (in Greek) - Related academic journals:
--