COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF SCIENCES
ACADEMIC UNIT	DEPARTMENT OF STATISTICS & ACTUARIAL – FINANCIAL MATHEMATICS
LEVEL OF STUDIES	POSTGRADUATE PROGRAM Statistics & Actuarial – Financial Mathematics

COURSE CODE	333-1104	**SEMESTER**	A
COURSE TITLE	REGRESSION ANALYSIS AND ANALYSIS OF VARIANCE		

INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	CREDITS
	2	6

COURSE TYPE	GENERAL KNOWLDGE
PREREQUISITE COURSES:	NO
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	http://www.samos.aegean.gr/samos_actuar/modules_eng.html

(2) LEARNING OUTCOMES

Learning outcomes

Students will be able to:

- Recognize the situations where regression analysis can be applied and to understand the prerequisites for its use and its overall usefulness.
- Fit the proper regression model to available data
- Make the appropriate the statistical inference
- Analyze and explain the findings of the analysis
- Develop the capacity to investigate via graphical methods and statistical tests the validity of the underlying model assumptions
- Recognize techniques to rectify some of the problems encountered and to evaluate the performance of the fitted model
- Decide on the best subset of independent variables that should be included in the model on the basis of various selection and performance criteria
- Implement basic estimation methods for data analysis and combine them for the variance analysis estimation
- Demonstrate the ability to carry out an analysis by effectively utilizing statistical software packages and the capacity to undertake good statistical reporting and interpretation of the results.

General Competences

Search for, analysis and synthesis of data and information, with the use of the necessary technology,
Decision-making,
Development of critical thinking

(3) SYLLABUS

Simple linear regression, multiple linear regression, model selection/specification, analysis of variance.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	Synchronous and Asynchronous E-Learning and Face-to-face learning.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	• Communication with students via e-mail & eclass • Course material on eclass.

TEACHING METHODS	Activity	Semester workload
	Lectures	24
	Independent study	74
	assignments	52
	Course total (25 per ECTS)	**150**

STUDENT PERFORMANCE EVALUATION	Student evaluation is done in Greek through: (a) a written examination which includes questions and problem solving and/or (b) homework done individually or in small groups, delivered regularly and presented in public. For students with disabilities, evaluation takes place via oral exams.

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

1. Koutras, M. and Evagelaras, C. (2016). Regression Analysis Theory and Applications, Publisher: Tsotras, A. Athanasios
2. Karoni, C. and Economou, P. (2017). Statistical Regression Models, Publisher: Kalamara E.
3. Draper, N. R. and Smith, H. (1997). Applied Regression Analysis, Publisher: A. Papazisis. (also, in English from Wiley series in probability and mathematical statistics)
4. Kaffes, D. G. (1989). Lectures of Analysis of Variance, Stamoulis.