COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Economics and Management Science		
ACADEMIC UNIT	Department of Economics		
LEVEL OF STUDIES	6		
COURSE CODE	723	**SEMESTER**	7th
COURSE TITLE	Economic Applications using Software Packages		

INDEPENDENT TEACHING ACTIVITIES *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*	**WEEKLY TEACHING HOURS**	**CREDITS**
	4	6 ECTS
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	special background
PREREQUISITE COURSES:	No
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	yes
COURSE WEBSITE (URL)	

(2) LEARNING OUTCOMES

Learning outcomes

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.

Consult Appendix A

- *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*

Upon completion of this course the students will be able to:

- Use modern software packages in economic applications, econometrics, applied economics and statistics.
- Apply tools and models of time series analysis to economic time series data.

General Competences

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?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
……
Others…
…….

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Working independently
Working in an interdisciplinary environment
Criticism and self-criticism
Production of free, creative and inductive thinking

(3) SYLLABUS

This course presents and discusses applications of time series tools and models to economic time series data. Topics to be covered include:

- Definition of a time series, time series plot, Examples of economic time series
- Deterministic trend models
- Stochastic time series models: stochastic process, stationary and non-stationary stochastic processes, autocorrelation coefficient - autocorrelation function (correlogram), white noise, *iid,* stochastic trend, random walk, random walk with drift
- Stationary time series models: autoregressive models AR, moving average models MA, ARMA models
- Non-stationary time series models: integration, differencing, ARIMA models
- Unit root tests
- Vector autoregressive models (VAR)
- The concept of cointegration – Vector error correction models (VECM)

The course also includes an introduction to the econometric software (open source) **gretl** - GNU Regression, Econometrics and Time Series Library and its use in the econometric analysis of economic time series (http://gretl.sourceforge.net/).

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Use of ICT in teaching, laboratory education, communication with students

TEACHING METHODS

The manner and methods of teaching are described in detail.
Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

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

Activity	***Semester workload***
Lectures,	52
directed study	48
non-directed study	50
Course total	150 hours

STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *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* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Final written exam

(5) ATTACHED BIBLIOGRAPHY

(in greek)
1) Σύγχρονες Μέθοδοι Ανάλυσης Χρονολογικών Σειρών, Δημέλη Σοφία.
2) Υπολογιστικά Πακέτα και οι Οικονομικές τους Εφαρμογές, Τσιώνας Ευθύμιος