COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Economics and Management Science
ACADEMIC UNIT	Department of Economics
LEVEL OF STUDIES	6

COURSE CODE	107	**SEMESTER**	1st

COURSE TITLE	Introduction to Computational Economics

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	7,5
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*	General background, skills development
PREREQUISITE COURSES:	No
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes (In English)
COURSE WEBSITE (URL)	http://stavrakoudis.econ.uoi.gr/stavrakoudis/?iid=2

(2) LEARNING OUTCOMES

By the end of the course the student will be able to:
- Perform simple calculations using spreadsheets (Excel, Google sheets) or computational statistics software like R.
- Use Maxima to solve mathematical problems like solving polyonymic equations, systems of linear/nolinear equations, calculate direvatives and integrals, static optimization of functions with up to 2 variables.
- Solve simple introductory problems of economic analysis
- Make plots and graphs of mathematical functions or stitistical related graphs (scatter plots, histograms, bar chars, etc) using spreadsheets, Maxima or R.

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*	*Project planning and management* *Respect for difference and multiculturalism* *Respect for the natural environment* *Showing social, professional and ethical responsibility and*

Working independently	sensitivity to gender issues
Team work	Criticism and self-criticism
Working in an international environment	Production of free, creative and inductive thinking
Working in an interdisciplinary environment	......
Production of new research ideas	Others...
	....

Working independently

Working in an interdisciplinary environment

Writing computer code

Production of free, creative and inductive thinking

Presenting their work

(3) SYLLABUS

1. Plotting and graphing data sets

2. Simple mathematical and statistical computations

3. Utility computations with the computer

4. Market equilibrium

5. Elastisity

6. Consumer and Producer Surplus

7. Perfect competition

8. Monopoly market

9. Numerical data, floating point numbers, accuracy of computations

10. Recursion

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face, online video lectures
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Complete course management via website http://stavrakoudis.econ.uoi.gr/stavrakoudis/?iid=2, video lectures, slides, code and examples, announcements, polls, comments, etc. Lectures with laptop/projector.

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	25
	Computer work	75
	Test and quizz	10
	Homework	25
	Course total	187 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*	Mixture of : a) online quizz and tests b) computer lab work c) presentations of assignments

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	

(5) ATTACHED BIBLIOGRAPHY

- A. Stavrakoduis, Introductions to Computational Methods for Economics and Business Studies (in Greek), Athens, 2012
- A. Ekonomidis, V. Karatzoglou, T. Chatzidaki, Excel usage and applications to Economics and Management Economics (in Greek)
- J. Leypold, M. Petry, Maxima for Economics, http://statmath.wu.ac.at/~leydold/maxima/