COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF SCIENCES
ACADEMIC UNIT	PHYSICS DEPARTMENT
LEVEL OF STUDIES	UNDERGRADUATE

COURSE CODE	25	**SEMESTER**	2
COURSE TITLE	PROGRAMMING LANGUAGES		

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	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:	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes (Greek)
COURSE WEBSITE (URL)	http://ecourse.uoi.gr/enrol/index.php?id=881

(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*

This course is an introduction to programming languages. The student develops its skill in programming using the C programming language. During the course special emphasis is given to the use of the open source operating system Linux. The student during the laboratory part of the course develops programmes using a computer. After the successful completion of the course the student is in position:

- **To use the operating system Linux**
- **To develop and compile simple C programmes**
- **To develop logic in his programmes using the C control statements**
- **To design programmes using functions**
- **To develop composite programmes using arrays and structures**
- **To treat data files**

Working independently.
Search for, analysis and synthesis of data and information, with the use of the necessary technology.

(3) SYLLABUS

Learning of C programming language.
- Introduction to Linux.
- Simple input-output command lines
- Data types, operators and expressions
- Control statements
- Functions and program structure
- Pointers and arrays
- Structures
- Data files

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face teaching
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	• **A web page for notes and announcements is used.** • **Each student uses a computer during the laboratory part of the course.**
TEACHING METHODS	*Activity* | *Semester workload*

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*	Lectures (Theory-Examples)	26
	Laboratory practice	26
	Study and analysis of bibliography	70
	Examinations	3
	Course total	*125*

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.*	Evaluation during the laboratory (30%) • Development of various programmes by the students in a weekly basis. For the programmes development a computer is used Written Examination (70%) • A final written examination at the end of the course, which includes the development of various programs based on what the students learned during the course. A requirement for the participation to the final written examination is the passing grade during the laboratory evaluation.

(5) ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*
- *Related academic journals:*
  - Notes : Printed by the University of Ioannina
  - Herbert Schildt, Teach Yourself C, 3rd Edition, ISBN:978-969-512-228-7, M.Giourdas, 2000, Athens
  - B.W.Kernighan & D.M.Ritchie, The C Programming Language, ANSI C, ISBN: 978-960-461-132, Klidarithmos, 2008, Athens
  - G.S.Tselikis – N.D. Tselikas, C from theory to application, 2nd Edition, ISBM: 978-960-93-1961-4, N.Tselikas, 2012, Athens