COURSE OUTLINE INTRODUCTION TO COMPUTER PROGRAMMING

1. GENERAL

SCHOOL	PHYSICAL EDUCATION, SPORT SCIENCE AND OCCUPATIONAL THERAPY		
DEPARTMENT	PHYSICAL EDUCATION AND SPORT SCIENCE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	C044	**SEMESTER**	5^{th},6^{th}
COURSE TITLE	INTRODUCTION TO COMPUTER PROGRAMMING		

TEACHING ACTIVITIES *If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labs etc. If the ECTS Credits are awarded to the whole course, then please indicate the teaching hours per week and the corresponding ECTS Credits.*	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	2	3

COURSE TYPE *Background, General Knowledge, Scientific Area, Skill Development*	Skill Development
PREREQUISITES:	None
TEACHING & EXAMINATION LANGUAGE:	Hellenic (Greek) English for Erasmus+ students
COURSE OFFERED TO ERASMUS STUDENTS:	YES
COURSE URL:	

2. LEARNING OUTCOMES

Learning Outcomes

Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

After the successful completion of the course students will be able to:

- *know basic computer programming procedures*
- *analyse a problem into its structural components and develop an algorithmic procedure to solve it*
- *develop simple programs in the Python programming language*
- *develop programs in Python to carry out basic calculations in the fields of physical education and sport training*
- *can represent the results of calculations in graphical representations*

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information,
ICT Use
Adaptation to new situations
Decision making
Autonomous work
Teamwork
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project design and management
Equity and Inclusion
Respect for the natural environment
Sustainability
Demonstration of social, professional and moral responsibility and sensitivity to gender issues
Critical thinking
Promoting free, creative and inductive reasoning

The general skills that are supported involve:

- *Search, analysis and synthesis of data and information, using appropriate ICT*
- *Decision making*

- *Autonomous work*
- *Teamwork*
- *Working in an international environment*
- *Working in an interdisciplinary environment*
- *Production of new research ideas*
- *Project design and management*
- *Respect for the natural environment*
- *Promoting free, creative and inductive reasoning*

3. COURSE CONTENT

1. *Basic principles of computer programming*
2. *Problem-solving methodology (introduction to algorithms)*
3. *Overview of programming environments*
4. *Introduction to the Python programming language*
5. *Working with variables and expressions*
6. *Fundamental data types*
7. *Advanced data structures (e.g., lists, tuples, sets, sequences, dictionaries)*
8. *Arrays and tables*
9. *Data input and output operations with files*
10. *Control flow and iterative loops*
11. *Visualization using graphical representations*
12. *Practical applications to simple problems*
13. *Error handling and debugging techniques*

4. LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD *Face to face, Distance learning, etc.*	– Face to face – Theoretical lectures – Laboratory courses – Distance learning
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) *Use of ICT in Teaching, in Laboratory Education, in Communication with students*	Use of ICT in teaching and communication with students: – digital slides – videos – - MsTeams/ e-class, webmail
TEACHING ORGANIZATION *The ways and methods of teaching are described in detail.* *Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study / creation, project, creation, project. Etc.* *The supervised and unsupervised workload per activity is indicated here, so that total workload per semester complies to ECTS standards.*	

Activity	***Workload/semester***
Lectures	26
Lab exercises	26
Study and analysis of the literature	20
Examinations	3
Total	**75**

STUDENT EVALUATION *Description of the evaluation process*	1. Interim evaluations (80%)

Assessment Language, Assessment Methods, Formative or Concluding, Multiple Choice Test, Short Answer Questions, Essay Development Questions, Problem Solving, Written Assignment, Essay / Report, Oral Exam, Presentation in audience, Laboratory Report,Clinical examination of a patient,Artistic interpretation, Other/Others *Please indicate all relevant information about the course assessment and how students are informed*	2. Written exams including: multiple choice tests, short answer questions and development questions designed to solve problems (20%) The assessment languages are Greek and English for Erasmus students

5. SUGGESTED BIBLIOGRAPHY

1. *KAFES M. (2017) EXPLORING PYTHON. ATHENS: KLEIDARITHMOS EDITIONS*
2. *MANIS C. (2016) INTRODUCTION TO PROGRAMMING WITH THE HELP OF THE PYTHON LANGUAGE. ATHENS: GREEK ACADEMIC ELECTRONIC WRITINGS AND AIDS - "KALIPOS" REPOSITORY.*

ANNEX OF THE COURSE OUTLINE

Alternative ways of examining a course in emergency situations

Teacher (full name):	Nikolaos Aggelousis
Contact details:	nagelous@phyed.duth.gr
Supervisors:	Yes
Evaluation methods:	Written or oral examination with distance learning methods,via eClass. Identification and monitoring of examinees through Microsoft Teams
Implementation Instructions:	The examination in the course will be done in randomly created groups of users (examinees). The compositions of the user groups will be announced in time. The total examination duration of each group will be 1 hour. In the first twenty minutes of each examination period, the examinees will be identified through the MS Teams app. For this purpose, there must be a camera, microphone and headphones connected to their terminal device (PC or smartphone). The relevant link will be sent via eClass, exclusively to the institutional accounts of those who have registered for the course and have accepted the terms of distance examination. For identification, students will display their student ID on camera when requested. The main examination will be carried out through the "Exercises" application of eClass. In particular, at the beginning of the second twenty minutes of each examination period, an exercise entitled "Examination - Group X (where X = 1 to n)" will be activated in the eClass, which will include 20 questions. The time limit for answering the 20 questions will be 30 minutes. During this period, all questions should be answered and finalized. Each of the questions will be graded with 0.5 points. Students should log in to the eClass platform through their institutional account.

	Also during the exam the camera and microphone of the examinees have to be continuously activated and the MS Teams application should be open.