COURSE DESCRIPTION

1. GENERAL

SCHOOL	MUSIC AND AUDIOVISUAL ARTS		
DEPARTMENT	AUDIO AND VISUAL ARTS		
LEVEL	Undergraduate		
COURSE CODE	TEC311	**SEMESTER**	3rd
COURSE TITLE	Introduction to Computer Programming I		
INDEPENDENT TEACHING ACTIVITIES		**WEEKLY TEACHING HOURS**	**ECTS**
Lecture, Lab Lecture		4	7
COURSE CATEGORY	General Background		
COURSE TYPE	Elective		
PREREQUISITES	TEC110		
LANGUAGE OF TEACHING and EXAMINATIONS	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES (In English)		
URL	https://avarts.ionio.gr/en/studies/undergraduate/courses-descriptions/tec311/		
ECLASS			

2. TEACHING RESULTS

Teaching Results

To familiarise students with essential elements of computer programming in general and the C programming language in particular.
To provide a basic understanding of algorithmic problem solving principles and develop further coding skills towards moderately
complex applications.

General Skills

- Seek, analyze and synthesize data
- Autonomous work
- Team work
- Project design and management
- Freedom of thought

3. CONTENT

An introductory course on computer programming and algorithmic problem solving using the C programming language

1st Week Computer architecture basics, hardware, software, operating systems.
2nd Week Design of computer programmes, algorithm development, flowcharts.Programming languages: classification, examples, history, components. Compilers, interpreters, assemblers and their characteristics.
3rd Week Introduction to the C programming language: history, features.
4th Week Variables, basic data types. Operators: numerical, bitwise, relational, logical and their priorities.
5th Week Data input-output and formatting. Functions enabling character input-output.
6th Week Algebraic operators. Logical expressions, statements and operators.
7th Week Programme flow control fundamentals. The if-else commands and variants. The switch command.
8th Week The while command. The do-while command. The for command. Nested execution.
9th Week Functions: user-defined, library, declaration and call.
10th Week Pointers, string management.
11th Week Arrays, character arrays and associated declaration procedures.
12th Week Passing arrays to functions. Multi-dimensional arrays.

13th Week Structures: definition, fields, variable declaration. Arrays of structures. Passing structure elements to functions. Pointers to structures. Nested structures.

4. TEACHING AND LEARNING METHODS - EVALUATION

TEACHING METHOD	Lectures
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Enhanced by multimedia content. The learning process is supported by the asyncrhonous e-learning platform e-class.
TEACHING STRUCTURE	Activity — Semester Workload Lectures — 26 Lab Lectures — 26 Literature Study and Analysis — 80 Practice and Preparation — 43 **Course Total** (ECTS: 7) — **175**
EVALUATION OF STUDENTS	Written examination paper.

5. BIBLIOGRAPHY

(in Greek)

N. M. Χατζηγιαννάκης, Η γλώσσα C σε βάθος

Deitel & Deitel, C Προγραμματισμός