

COURSE DESCRIPTION

1. GENERAL

SCHOOL	MUSIC AND AUDIOVISUAL ARTS		
DEPARTMENT	AUDIO AND VISUAL ARTS		
LEVEL	Undergraduate		
COURSE CODE	TEC311	SEMESTER	3 rd
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
<ul style="list-style-type: none"> • Seek, analyze and synthesize data • Autonomous work • Team work • Project design and management • Freedom of thought

3. CONTENT

<p>An introductory course on computer programming and algorithmic problem solving using the C programming language</p> <p>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.</p>
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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 asynchronous e-learning platform e-class.												
TEACHING STRUCTURE	<table> <tr> <td>Activity</td> <td>Semester Workload</td> </tr> <tr> <td>Lectures</td> <td>26</td> </tr> <tr> <td>Lab Lectures</td> <td>26</td> </tr> <tr> <td>Literature Study and Analysis</td> <td>80</td> </tr> <tr> <td>Practice and Preparation</td> <td>43</td> </tr> <tr> <td>Course Total (ECTS: 7)</td> <td>175</td> </tr> </table>	Activity	Semester Workload	Lectures	26	Lab Lectures	26	Literature Study and Analysis	80	Practice and Preparation	43	Course Total (ECTS: 7)	175
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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