

## COURSE OUTLINE

### GENERAL

<b>SCHOOL</b>	Sciences and Engineering		
<b>ACADEMIC UNIT</b>	Computer Science		
<b>LEVEL OF STUDIES</b>	1 <sup>st</sup> Cycle		
<b>COURSE CODE</b>	COMP-213	<b>SEMESTER</b>	Fall, Spring
<b>COURSE TITLE</b>	Visual Programming		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <i>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</i>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
		2.5	6
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Specialization		
<b>PREREQUISITE COURSES:</b>	COMP-113		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	English		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>			
<b>COURSE WEBSITE (URL)</b>			

### LEARNING OUTCOMES

<p><b>Learning outcomes</b></p> <p><i>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.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <li>• <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i></li> <li>• <i>Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i></li> <li>• <i>Guidelines for writing Learning Outcomes</i></li> </ul>
<p>After completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>• analyze problems and find abstract solutions</li> <li>• apply components-based concepts and problem solving techniques</li> <li>• critically assess the object-oriented, GUI-based, and event driven programming paradigms</li> <li>• translate an abstract solution into an application with the appropriate user interface</li> <li>• develop (write/debug/correct) applications using an Integrated Development Environment</li> <li>• reuse and integrate components into the solution application.</li> </ul>

### 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

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

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Others...

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- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Adapting to new situations
- Decision-making
- Working independently
- Project planning and management
- Criticism and self-criticism
- Production of free, creative and inductive thinking

### SYLLABUS

1. Problem solving techniques; abstract programming.
2. Object-oriented, event-driven, GUI application programming concepts.
3. The Visual Integrated Development Environment.
4. User interface design.
5. Linking the program code with the interface.
6. Writing and Debugging GUI programs; syntax errors, run-time errors, logic errors.
7. Visual controls and user interface design, Variables and constants; types; scope and lifetime of variables and constants, Calculations and formatting of data, Decisions and conditions; selection statements, Procedures and Functions; parameters and arguments, Multiform projects; scope of variables and procedures; modules, Repetition statements.
8. Arrays; Single and Multidimensional Arrays.
9. Web Applications; designing web forms.
10. Integrating components like Graphics, Animation, and Sound.

### TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b>	<i>Use of ICT in teaching / Χρήση ΤΠΕ</i> <i>Communication with students / Επικοινωνία με Φοιτητές</i>

Use of ICT in teaching, laboratory education, communication with students															
<b>TEACHING METHODS</b> <i>The manner and methods of teaching are described in detail.</i> <i>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.</i>  <i>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</i>	<table><tr><th><b>Activity</b></th><th><b>Semester workload</b></th></tr><tr><td>Lectures</td><td>35</td></tr><tr><td>Preparation, homework, quizzes</td><td>51</td></tr><tr><td>Projects</td><td>37</td></tr><tr><td>Exam preparation</td><td>25</td></tr><tr><td>Final Exam</td><td>2</td></tr><tr><td>Course total</td><td><b>150</b></td></tr></table>	<b>Activity</b>	<b>Semester workload</b>	Lectures	35	Preparation, homework, quizzes	51	Projects	37	Exam preparation	25	Final Exam	2	Course total	<b>150</b>
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Course total	<b>150</b>														
<b>STUDENT PERFORMANCE EVALUATION</b> <i>Description of the evaluation procedure</i>  <i>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</i>  <i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	Final Exam, Midterm Exam, Homeworks, and Project														

## ATTACHED BIBLIOGRAPHY

Required Textbooks / Readings:				
Title	Author(s)	Publisher	Year	ISBN
Starting out with Visual C#, 5th Ed.	Tony Gaddis	Pearson	2021	978-0137502783
Recommended Textbooks / Readings:				
Title	Author(s)	Publisher	Year	ISBN
Beginning C# 7 Programming with Visual Studio 2017	B. Perkins, J. V. Hammer, J. D. Reid	Wrox	2018	978-1119458685
Professional Visual Studio 2017	B. Johnson	Wrox	2018	978-1119404583