



Course Syllabus

Course Code	Course Title	ECTS Credits
COMP-213	Visual Programming	6
Prerequisites	Department	Semester
COMP-113	Computer Science	Fall
Type of Course	Field	Language of Instruction
Elective	Computer Science	English
Level of Course	Lecturer(s)	Year of Study
1 st Cycle	Prof Philippos Pouyioutas	2 nd
Mode of Delivery	Work Placement	Corequisites
Face-to-face	N/A	None

Course Objectives:

The main objectives of the course are to:

- develop algorithmic, object-based and event-driven thinking and problem solving skills
- introduce the concepts of designing a graphical user interface and associate the interface with the program code
- introduce the concepts and techniques of programming in general and Visual, Object-Oriented, and Event-Driven programming in a specific Visual Integrated Development Environment
- develop programs that responds to exception conditions raised during execution
- introduce the concepts of Visual Programming, namely Controls and Constructs, Variable, Decisions, Loops, Arrays, Multi-form applications, File Handling, and integrating components like Web forms, Graphics, Animation, and Sound.

Learning Outcomes:

After completion of the course students are expected to be able to:

1. analyze problems and find abstract solutions
2. apply components based concepts and problem solving techniques
3. critically asses the object-oriented, GUI-based, and event driven programming paradigms
4. translate an abstract solution into an application with the appropriate user interface
5. develop (write/debug/correct) applications using an Integrated Development Environment
6. reuse and integrate components into the solution application.

Course Content:

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

Learning Activities and Teaching Methods:

Lectures, Lab Tutorials, Practical Exercises, and Assignments

Assessment Methods:

Final Exam, Midterm Exam, Homeworks, and Project

Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Programming in Visual C# 2008	A. C. Millspaugh, J. C. Bradley	McGraw Hill	2010	978-0073517216

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