Course Title	Visual Programming				
Course Code	CIS310				
Course Type	Compulsory				
Level	Bachelor (1st cycle)				
Year / Semester	3rd year / 6th semester				
Teacher's Name	TBA				
ECTS	6	Lectures / week	3 hours/ 14 weeks	Laboratories / week	None
Course Purpose and Objectives	The purpose of this course is to introduce to students basic ideas and working knowledge on visual programming. The primary objective is to discuss implementation of a graphical user interface using a visual programming language and learning about event driven programming using an industry standard application tool. An additional objective is to have student link their applications to databases and therefore reinforce their practical experience with a skill used in the industry to produce real-life applications.				
Learning Outcomes	Upon successful completion of this course students should be able to • Develop basic applications in a visual programming language (either command line or GUI-based) • Build classes or hierarchies thereof in order to produce object orientation solutions • Implement even-driven graphical user interface applications using industry standard tools • Design and build relational databases (manually or programmatically) using industry standard tools • Develop multi-module projects that would link to a database and provide an industry-grade software solution.				
Prerequisites	CSE310		Co-requisites	None	
Course Content	Introduction to visual programming and the IDE Understanding the development environment; creating projects; working with solutions; writing and using files; compiling; building; debugging tools. Brief review of programming and development language syntax Data types, declaring, statements, control structures, repetition structures, functions, procedures, arguments, variable scope (local and global); array declaring; array allocating; array initializing; array manipulation Object orientation (quick walk-through/review) Object orientation concepts; realizing how classes are implemented in the new environment; attributes; functions; access to members;				

	constructors; data abstraction and information hiding; designing and implementing hierarchies of classes in order to reuse code. Graphical user interface and events Understand and use GUI components (either primitive or composite). Designing, arranging and building an interface. Using events; event handling for components; using object orientation concepts and ideas to work with and manipulate components, the interface and the application in general. Databases Working with a database engine; using industry tools; creating and using tables; fields; primary and foreign keys, relationships and relation diagrams. Manually manipulate database data using SQL statements and queries Applications using databases Developing applications with database connectivity and data-bound controls. Making data connections; creating and manipulating data sets; database views; database queries. Manipulating data using application code and event associated triggers. Brief on creating installations to deliver products to clients. Brief of reports and reporting tools.
Teaching Methodology	Class instruction; Consultations; Laboratory sessions; Coursework; Personal study
Bibliography	Deitel P., Deitel H., C# how to program Pearson Latest edition Sharp J., Microsoft Visual C# step by step Microsoft Press Latest edition Zek D., Programming with Microsoft Visual Basic 2017 Cengage learning Latest edition Schmatz M., C# database basics O'Reilly media Latest version Bai Y., Practical database programming with visual C# .net Willey IEEE Press Latest edition Bai Y., Practical database programming with visual basic .net Willey IEEE Press

	Latest edition
Assessment	Class Participation and attendance 10% Coursework 30% Midterm examination 30% Final examination 30% 100%
Language	English