

GAU, Faculty of Engineering

Course Unit Title	Visual Programming	
Course Unit Code	CEN468	
Type of Course Unit	Technical elective, engineering students	
Level of Course Unit	BSc	
National Credits	3	
Number of ECTS Credits Allocated	6 ECTS	
Theoretical (hour/week)	3	
Practice (hour/week)	-	
Laboratory (hour/week)	-	
Year of Study	4	
Semester when the course unit is delivered	8	
Mode of Delivery	Face to Face, Practical Experiments, Web	
Language of Instruction	English	
Prerequisites and co-requisites	-	
Recommended Optional Programme Components	Computer programming skills	
Objectives of the Course		
<ul style="list-style-type: none"> ➤ Concepts and principles of RAD(Rapid Application Development) tools ➤ Topics include basic and complex visual form design ➤ .NET Framework environment, Visual Basic language ➤ Data-aware visual programming 		
Learning Outcomes		
When this course has been completed the student should be able to		Assesment
1	Have basic skills for performing Rapid Application Development	1,5
2	Gain intermediate practical experience in a modern programming language	1,5
3	Design and write practical windows desktop applications	1,5
4	Use files in applications	1,5
5	Connect and use databases in applications	1,5
<i>Assesment Methods:</i> 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work		
Course's Contribution to Program		
		CL
1	Ability to understand and apply knowledge of mathematics, science, and engineering	1
2	Ability to design and conduct experiments as well as to analyze and interpret data	3
3	Ability to work in multidisciplinary teams while exhibiting professional responsibility and ethical conduct	1
4	Ability to apply systems thinking in problem solving and system design	5
5	Knowledge of contemporary issues while continuing to engage in lifelong learning	3
6	Ability to use the techniques, skills and modern engineering tools necessary for engineering practice	4
7	Ability to express their ideas and findings, in written and oral form	1
8	Ability to design and integrate systems, components or processes to meet desired needs within realistic constraints	3
9	Ability to approach engineering problems and effects of their possible solutions within a well structured, ethically responsible and professional manner	1
10	To apply fundamental concepts of software design, database design, data processing and artificial intelligence in the modeling, designing, implementing, testing and deploying software solutions.	4
11	Ability to analyse and design hardware systems by applying the principles of embedded systems, microprocessors, computer networks, distributed systems and data communication.	4
<i>CL (Contribution Level):</i> 1.Very Low, 2.Low, 3.Moderate, 4.High, 5.Very High		

Course Contents			
Week			Exams
1		Introduction to visual studio environment	
2		VB programming language crash course	
3		VB programming language crash course	
4		Common Components in VS	
5		Common Components in VS	
6		String Functions, Mathematical Functions	
7		Hidden Objects, Multiple Forms, Message Boxes	Quiz
8			Midterm
9		File-Folder Management	
10		File Operations	
11		Array of Objects	
12		Multi-thread programming	
13		DB connection	
14		Data-aware Components	
15			Final
Recommended Sources			
Textbook: Programming in Visual Basic 2010, J.C.Bradley, A.Millspaugh, Career Education, 2010			
Supplementary Material (s): Introduction to Programming Using Visual Basic 2010, 8th Edition, D.I.Schneider, Prentice Hall, 2010			
Assessment			
Attendance	10%		
Homeworks	5%		
Laboratory	5%		
Midterm Exam	35%	Computer-Based	
Quiz	5%		
Final Exam	40%	Computer- Based	
Total	100%		
ECTS Allocated Based on the Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class (including the Exam week)	13	3	39
Labs and Tutorials	-	-	-
Assignments	3	5	15
E-Learning Activities	-	-	-
Project/Presentation/Report Writing	-	-	-
Quizzes	1	11	11
Lab Exams	-	-	-
Midterm Examination	1	15	15
Final Examination	1	20	20
Self Study	13	5	65
Total Workload			165
Total Workload/30 (h)			5.5
ECTS Credit of the Course			6