

GAU, Faculty of Engineering

Course Unit Title	Computer Programming II	
Course Unit Code	ENG203	
Type of Course Unit	Compulsory, All engineering students	
Level of Course Unit	2nd Year BSc	
National Credits	4	
Number of ECTS Credits Allocated	6 ECTS	
Theoretical (hour/week)	3	
Practice (hour/week)	2	
Laboratory (hour/week)	2	
Year of Study	2	
Semester when the course unit is delivered	3	
Mode of Delivery	Face to Face, Laboratory Experiments, E-learning activities	
Language of Instruction	English	
Prerequisites and co-requisites	ENG102	
Recommended Optional Programme Components	Basic background in algorithms	
Objectives of the Course:		
<ul style="list-style-type: none"> ➤ Analyze the features of C programming language ➤ Write, document, test and debug C language programs. ➤ Use editors to compose programming code and compilers to produce executable software 		
Learning Outcomes		
When this course has been completed the student should be able to		Assesment.
1	Employ good programming style, standards and practices during program development	1
2	Develop the capacity to analyze and solve problems using suitable algorithmic solutions which are then coded in C language	1
3	Integrate programming experience and language knowledge to other programming language contexts	1,2,5
4	Examine to use appropriate statements available in C language	1,2
5	Develop laboratory skills and practical skills	5
6	Apply simple and dynamically allocated data structures in solutions	1,5
Assesment Methods: 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	3
2	Ability to design and conduct experiments as well as to analyze and interpret data	4
3	Ability to work in multidisciplinary teams while exhibiting professional responsibility and ethical conduct	2
4	Ability to apply systems thinking in problem solving and system design	3
5	Knowledge of contemporary issues while continuing to engage in lifelong learning	
6	Ability to use the techniques, skills and modern engineering tools necessary for engineering practice	3
7	Ability to express their ideas and findings, in written and oral form	2
8	Ability to design and integrate systems, components or processes to meet desired needs within realistic constraints	4
9	Ability to approach engineering problems and effects of their possible solutions within a well structured, ethically responsible and professional manner	3
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)		

Course Contents			
Week			Exams
1	Chapter 1	Arrays in C; Two dimensional Arrays	
2		Generating Two Dimensional Arrays	
3	Chapter 2	Functions in C; functions definitions	
4		Functions in C; calling functions; call by value, call by reference	
5	Chapter 3	Strings in C; Fundamentals of Strings and characters	
6		Strings in C; String manipulating functions, string comparison functions of the string-handling library	
7		Exercises on String and functions	
8			Quiz
9			Midterm
10	Chapter 4	C structures, Structure definitions, initializing structures, accessing member functions of structures	
11		Using structures with functions	
12	Chapter 5	File processing in C	
13		Writing various data types into a file, reading various data types from a file	
14		Revision	Quiz/Lab. Quiz
15			Final

Recommended Sources

Textbook: How to C Program, Deitel, (8th Edition 2011) (Other editions are also useful)

Supplementary Material (s): The Complete Reference C, Herbert Schildt , McGraw-Hill, (4th Edition 2000)

Assessment

Attendance	10%	
Laboratory	10%	
Midterm Exam (Written)	30%	
Quiz (Written)	10%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class (including the Exam week)	15	3	45
Labs and Tutorials	10	2	20
Assignments	7	3	21
Project/Presentation/Report Writing	-	-	-
E-learning Activities	-	-	-
Quizzes	2	10	20
Midterm Examination	1	14	14
Final Examination	1	22	22
Self Study	14	2	28
Total Workload			170
Total Workload/30 (h)			5.67
ECTS Credit of the Course			6