



Hashemite University
College of Engineering
Department of Allied engineering sciences
Computer Programming (3 Credit Hours/Fac. Compulsory)

Course Name:	Computer Programming
Course Number:	110400102
Prerequisite:	110108099
Textbook:	C++ Programming: From Problem Analysis to Program Design , D.S. Malik, 8 th Edition, 2018.
References	C++ How to Program , Paul J. Deitel and Harvey Deitel, Pearson, 10 th Edition, 2016.
Course Description:	This course covers main topics of C++ programming including C++ fundamentals, operations, elements, structured methods, variables, assignment, Input/Output, control structures, functions, arrays, strings and pointers.
Course Learning Outcomes (CLOs):	CLO1: understand basic programming structures. SO's (1,2) CLO2: design C++ program to perform predefined task. SO's (1, 2) CLO3: analyze written C++ program to predict output. SO's (1, 2) CLO4: develop, debug and run C++ programs. SO (6)
Important material	- Lecture notes - References - Internet resources
Instructors	Dr. Enshirah Altarawneh, Dr. Mohammad Al-hammouri Contact via MS Teams: enshirah@staff.hu.edu.jo, Alhammouri@hu.edu.jo

Major Topics Covered and Schedule:

Topic	Chapter	# Lectures
Introduction to computers and programming languages	Chapter 1	1
Basics of C++	Chapter 2	6
- Data types, variables - Arithmetic expressions, operators, assignment, increment, decrement		
Input/ Output Basics	Chapter 3	2
First Exam (20)		
Control Structure I (Selection)	Chapter 4	5
- Relational and logical operators - "if, if ... else" - Switch Structure		
Control Structure II (Repetition)		
- Loops: "while" Loop, "for" Loop and "do... while" Loop. - Nested control structure	Chapter 5	5
Second Exam (20)		
User defined functions	Chapter 6	6
- Predefined functions, user defined functions - Value returning functions, void functions - Value Parameters - Reference Variables as Parameters - Value and Reference Parameters and Memory Allocation - Reference Parameters and Value-Returning Functions Scope of an Identifier - Global Variables, Named Constants, Static and Automatic Variables - Function Overloading		

<ul style="list-style-type: none"> - Functions with Default Parameters - Arrays as a parameter to function 		
Practical Exam (15)		
Arrays and strings <ul style="list-style-type: none"> - One dimensional Arrays creation, initialization and manipulation - Strings - Multidimensional Arrays 	Chapter 7, 8	4
Pointers <ul style="list-style-type: none"> - Introduction to pointers 	Chapter 12	1
Final Exam (40)		

Course Policy

- Course material website MS Teams and ([Path2Code](#)): Students are asked to check the website regularly for material.
- Practice questions will be posted regularly on ([Path2Code](#)) platform.
- Lectures will be hosted and recorded on MS Teams
- Students are responsible for the reading assignments from the text and handouts
- Students are responsible for following up the lecture materials
- If you miss an exam, there will not be a makeup exam and you will get a ZERO unless you have a valid excuse.
- Cheating and plagiarism are completely prohibited.
- **Grading policy:**
 - **First Exam: 20%**
 - **Second Exam: 20%**
 - **Practical exam: 14%**
 - **Assignments 6%**
 - **Final exam: 40%**
- **Course exams will be held at The Hashemite University examination platform, and their dates will be announced later.**

ABET Student Outcomes (SO) Addressed by the Course:

#	Outcome Description	Contribution
General Engineering Student Outcomes		
(1)	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. <i>(Previously SO's (a, e, k))</i>	H
(2)	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors. <i>(Previously SO's (c, k))</i>	H
(3)	An ability to communicate effectively with a range of audiences. <i>(Previously SO (g))</i>	
(4)	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts. <i>(Previously SO's (f, h, j))</i>	
(5)	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. <i>(Previously SO (d))</i>	
(6)	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions. <i>(Previously SO's (b, k))</i>	L
(7)	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies. <i>(Previously SO (i))</i>	

H=High, **M**= Medium, **L**=Low