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, 8th Edition, 2018.
References	**C++ How to Program**, Paul J. Deitel and Harvey Deitel, Pearson, 10th 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++ – Data types, variables – Arithmetic expressions, operators, assignment, increment, decrement	Chapter 2	6
Input/ Output Basics	Chapter 3	2
First Exam (20)		
Control Structure I (Selection) – Relational and logical operators – "if, if … else" – Switch Structure	Chapter 4	5
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 – 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	Chapter 6	6

– Functions with Default Parameters – Arrays as a parameter to function		
Practical Exam (15)		
Arrays and strings – One dimensional Arrays creation, initialization and manipulation – Strings – Multidimensional Arrays	Chapter 7, 8	4
Pointers – 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.**

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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. *(Previously SO's (a, e, k))*	***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. *(Previously SO's (c, k))*	***H***
(3)	An ability to communicate effectively with a range of audiences. *(Previously SO (g))*	
(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. *(Previously SO's (f, h, j))*	
(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. *(Previously SO (d))*	
(6)	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions. *(Previously SO's (b, k))*	***L***
(7)	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies. *(Previously SO (i))*	

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

Prepared By: Dr. Enshirah Altarawneh, Dr. Mohammad Al-hammouri **Date: 10/10/2022**