COURSE DESCRIPTION

Faculty	**Science and Information Technology**				
Department	**Software Engineering**			**NQF level**	7
Course Title	**Programming Language I**	**Code**	185103	**Prerequisite**	------
Credit Hours	3	**Theory**	2	**Practical**	1
Course Leader	**Dr. Nisrean Thalji**	**email**	n.thalji@jadara.edu.jo		
Lecturers	Dr. Saleh Al Amr Dr. Azmi Halasah Dr. Moath Shatnawi Dr. Firas Zawaideh Dr. Basem Al Rifai Dr. Loay Al Sabatin Dr. Ayat Al Jarah Dr. Eslam Al-Hersh Mr. Qutiba Zaqibeh Ms. Eqbal Zuriqat Ms. Areej Al Hmoud	**emails**	s.alomar@jadara.edu.jo halasa@jadara.edu.jo mo.shatnawi@jadara.edu.jo f.zawaideh@jadara.edu.jo b.rifai@jadara.edu.jo l.alsbatin@jadara.edu.jo ay.aljarrah@ jadara.edu.jo e.elhersh@ jadara.edu.jo q.azqiba @jadara.edu.jo eqbalz@jadara.edu.jo a.hamad@jadara.edu.jo		
Lecture time	Multi-section	**Classroom**	Face to face		
Semester	Second 2023/2024	**Production**	2009	**Updated**	2024

Short Description
This course introduces the use of C++ as an aid to solve mathematical and scientific problems, creating, compiling, and executing C++ programs (Data Types, Variables, Nested control structure, Nested Loops structure, Predefined and user defined functions, 1D&2D dimensional arrays).
Course Objectives
▪ To let students, acquire knowledge and understand structured programming. ▪ Promote students' skills to analyze, design, executing C++ structured programming concept.
Learning Outcomes
A. Knowledge - Theoretical Understanding
a1. **Illustrate** basic concepts on C++ commands and code segments. (K1)
B. Knowledge - Practical Application
a2. **Construct** C++ code to solve basic problems and some real word cases. (K4)
C. Skills - Generic Problem Solving and Analytical Skills
b1. **Evaluate** C++ code using problem-solving techniques and constraints. (S2)
D. Skills - Communication, ICT, and Numeracy
E. Competence: Autonomy, Responsibility, and Context
Teaching and Learning Methods
• Lecture nots, Labs, and references
Assessment Methods

- Quizzes, lab work, Assignments, Midterm exam, and Final exam.

Course Contents					
Week	**Hours**	**CLOs**	**Topics**	**Teaching & Learning Methods**	**Assessment Methods**
1	3	a1	**Introduction to C++ programming:** C++ program environment. processing a C++ program, programming with the problem analysis coding execution cycle.	Face to face Lectures & Labs	
2-4	9	a1, a2, b1	**Basic Elements of C++** (Comments, reserved words, identifiers), data types and memory allocation, scope of an identifier, operators and operator precedence, constants and variables, input & output statements, increment and decrement operators, output, creating a C++ program, and error detection.	Face to face Lectures & Labs	Quiz
5-8	12	a1, a2, b1	**Programming Flow of Control:** Control structure, if…else statements, nested if, Repetitive structure (Loop) (for, while & do-while), & nested loops.	Face to face Lectures & Labs	Quiz Assignment
MIDTERM EXAM					
9-11	9	a1, a2, b1	**Functions:** User-defined functions, void & value-returning functions, Function Prototype, call by value and reference parameters, overloading, global variables, default parameters.	Face to face Lectures & Labs	Quiz Assignment
12-14	9	a1, a2, b1	**Arrays and Strings:** Declaring and processing 1D&2D arrays, array initialization, character arrays, passing arrays to functions.	Face to face Lectures & Labs	Assignment
Final exam					

Infrastructure	
Textbook	**C++ Programming:** From Problem Analysis to Design. D.S. Malik, 8th Ed., 2018.
References	C++ How to Program, Paul J. Deitel and Harvey Deitel, Pearson, 10th Ed., 2016.
Required reading	
Electronic materials	
Other	

Course Assessment Plan					
Assessment Method		**Grade**	**CLOs**		
			a1	**a2**	**b1**
Midterm		**30**	**10**	**10**	**10**
Coursework		**20**	**5**	**10**	**5**
Final Exam		**50**	**15**	**20**	**15**
Coursework assessment methods	Assignments				
	Case study				
	Discussion and interaction				
	Group work activities				
	Lab tests and assignments				
	Presentations				
	Quizzes				
Total		**100**	**30**	**40**	**30**

Plagiarism
Plagiarism is claiming that someone else's work is your own. The department has a strict policy regarding plagiarism and, if plagiarism is indeed discovered, this policy will be applied. Note that punishments apply also to anyone assisting another to commit plagiarism (for example by knowingly allowing someone to copy your code). Plagiarism is different from group work in which a number of individuals share ideas on how to carry out the coursework. You are strongly encouraged to work in small groups, and you will certainly not be penalized for doing so. This means that you may work together on the program. What is important is that you have a full understanding of all aspects of the completed program. In order to allow proper assessment that this is indeed the case, you must adhere strictly to the course work requirements as outlined above and detailed in the coursework problem description. These requirements are in place to encourage individual understanding, facilitate individual assessment, and deter plagiarism.