

**COURSE DESCRIPTIONS**

<b>Faculty</b>	Science and Information Technology				
<b>Department</b>	Computer Science	<b>NQF level</b>	6		
<b>Course Title</b>	Programming Language II	<b>Code</b>	501221	<b>Prerequisite</b>	852121
<b>Credit Hours</b>	3	<b>Theory</b>	1	<b>Practical</b>	2
<b>Course Leader</b>	Dr. Sami Qawasmeh	<b>email</b>	<a href="mailto:sqawasmeh@jadara.edu.jo">sqawasmeh@jadara.edu.jo</a>		
<b>Lecturers</b>	Dr. Mutaz Abdel-Wahed	<b>emails</b>	<a href="mailto:mutaz@jadara.edu.jo">mutaz@jadara.edu.jo</a> ;		
<b>Lecture time</b>	11:30- 13:00	<b>Classroom</b>	Lab 15		
<b>Semester</b>	First	<b>Production</b>	2010	<b>Updated</b>	2020

**Short Description**

The aim of this course is to explain in detailed the principles of the object-oriented paradigm, provide familiarity with approaches to object-oriented modelling and design, syntax, pointers, class, inheritance, object-oriented programming concepts, and characteristics, data types, information hiding, constructors, destructors, friend function, array of objects, manipulating object, and inheritance.

**Course Objectives**

- To let students, acquire knowledge and understand object-oriented paradigm.
- Promote students to gather and analyze object-oriented design and executing C++ programs.

**Learning Outcomes**

**A. Knowledge - Theoretical Understanding**

a1. Define concepts of C++ program structure and object-oriented (OO). (K2)

**B. Knowledge - Practical Application**

a2. Demonstrate the scope, reference, and visibility concepts of objects. (K4)

**C. Skills - Generic Problem Solving and Analytical Skills**

b1. Build C++ and object-oriented model. (S1)

**D. Skills - Communication, ICT, and Numeracy**

**E. Competence: Autonomy, Responsibility, and Context**

c1. Inspect C++ program and object-oriented code. (S2)

**Teaching and Learning Methods**

Distance learning, students will access the e-learning platform for more instruction and supported learning materials.

Assessment Methods
There will be several assessment methods of evaluation the performance of the students such as attending and class participation, grading the quizzes; assignments; conducting the Midterm and the Final Exams.

Course Contents					
Week	Hours	CLOs	Topics	Teaching & Learning Methods	Assessment Methods
1-2	6	a1	Syllabus, <b>Course Schedule</b> ; Chapter 9,10: <b>Overview on functions Arrays and Strings, structs</b>	Distance E-Learning	
3-5	9	a1, b1	Chapter 11: <b>Static Structures</b> Complex Structures (Arrays and Records), Array Based Structures. One - and Multi-dimensional arrays and arrays of records.	Distance E-Learning	Quiz
6-7	6	a1, a2,b1	Chapter 14: <b>Dynamic structures</b> Pointers Operators. Pointer Expressions and pointer arithmetic, Relation between pointers and Arrays, Pointer Variable Definitions and Initialization, Dynamic memory allocation-Pointers and records.	Distance E-Learning	
<b>MIDTERM EXAM</b>					
8-12	9	b1, c1	Chapter 12: <b>Classes and Data Abstraction</b> Introduction to Object- Oriented Programming, Constructor and Destructors, Member Functions and Data Members, Defining a Class with a Member Function, Defining a Member Function with a Parameter	Distance E-Learning	Quiz
13-15	9	b1, c1	Chapter 13: <b>Introduction to inheritance:</b> Base Classes and Derived Classes. Protected Members, Relationship between Base Classes and Derived Classes, Constructors & Destructors	Distance E-Learning	
<b>Final EXAM</b>					

Infrastructure	
<b>Textbook</b>	C++ Programming: From Problem Analysis to Program Design, D.S. Malik, 2018
<b>References</b>	
<b>Required reading</b>	
<b>Electronic materials</b>	
<b>Other</b>	

<b>Course Assessment Plan</b>						
<b>Assessment Method</b>		<b>Grade</b>	<b>CLOs</b>			
			<b>a1</b>	<b>a2</b>	<b>b1</b>	<b>c1</b>
<b>Midterm)</b>		30	10	8	12	0
<b>Coursework</b>		20	5	5	5	5
<b>Final Exam</b>		50	10	15	15	10
<b>Coursework assessment methods</b>	Assignments			5		5
	Case study					
	Discussion and interaction					
	Group work activities					
	Lab tests and assignments					
	Presentations					
	Quizzes		5		5	
<b>Total</b>		<b>100</b>	25	28	32	15

<b>Plagiarism</b>
<p>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).</p> <p>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.</p>