

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	C++ Programming		Module Delivery
Module Type	core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOMU0209021		
ECTS Credits	7		
SWL (hr/sem)	175		
Module Level	1	Semester of Delivery	
Administering Department	AIET	College	ALmustaqbal University
Module Leader	Dr. Murtada Dohan	e-mail	murtada.dohan@uomus.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor		e-mail	
Peer Reviewer Name	Mcs Zahraa Hussein Jasim	e-mail	
Scientific Committee Approval Date	24/12/2024	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	<ol style="list-style-type: none">1. Learn the basic steps involved in entering, compiling, and executing and debugging a program.2. Apply structured programming control concepts of sequence, selection and repetition in the C++ language.3. Effectively use scalar data types float, int, and char.4. Manipulate elementary arrays.5. Design and effectively use functions and parameters.6. Create Files.
------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Module	<ol style="list-style-type: none">1. Recognize computer system and programming languages.2. Build simple program by using different data types.3. Define the relational operators and logical expressions.4. Adding new abilities to program by using selection control structures.5. Applying repetition control structures in programs.6. Perform, Break and continue Statements.7. Recognize functions in C++ program and their types and how to use them in program
Learning Outcomes	<ol style="list-style-type: none">8. Define the Enumeration type with Functions9. Identify String type with string Operations10. Using arrays with their types in programs and strings with functions.11. Applying pointer data types and classes.12. Apply recursion in functions13. Perform simple file I/O streams
مخرجات التعلم للمادة الدراسية	

**Indicative
Contents**

المحتويات
الإرشادية

1. Introduction to computers and Classification of programming languages (1 hours),
2. Introduction to problem solving (3 hours),
3. Computers and Programming Languages (3 hours),
4. Processing a C++ Program (3 hours).
5. Basics of a C++ Program, Data Types, Variables, Arithmetic Operators (3 hours) ,
6. Assignment and Input Statements (3 hours).
7. Input / Output, I/O Streams (3 hours),
8. Predefined Functions, Output Formatting (3 hours),
9. Control Structures I (Selection): Relational Operators, Logical Expressions (3 hours), If/If...else, Block Statements (3 hours),
10. Switch Structures (3 hours),
11. Control Structures I (Repetition) : While Looping, Do...while Looping (3 hours), For Looping (3 hours),
12. Break and continue Statements (3 hours),
13. Preparatory week before the final Exam
14. User-Defined Functions (6 hours),
15. User-defined simple data types and the string type (6 hours),
16. Arrays and strings (6 hours), Pointers, Classes (3 hours),
17. File Input/ Output (3 hours).

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, homework's and examples. Practical examples help students to understand the course material.
-------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	94	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	6.2
Unstructured SWL (h/sem) الحمل الدراسي الغير المنتظم للطالب خلال الفصل	81	Unstructured SWL (h/w) الحمل الدراسي الغير المنتظم للطالب أسبوعياً	5.46
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation

تقييم المادة الدراسية

As	Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome	
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1- 3, LO # 4 - 8
	Assignments	1	10% (10)	12	LO # 1-11
	Projects / Lab.	1	10% (10)	Continuous	LO # 1-12
	Report	1	10% (10)	Continuous	LO # 1-12
Summative assessment	Midterm Exam	2 hr	10% (10)	10	LO # 1-10
	Final Exam	4hr	50% (50)	16	All
Total assessment		100% (100 Marks)			

Delivery Plan (Weekly Syllabus)

المنهاج الدراسي النظري

Week	Material Covered
Week 1	Introduction to Programming Language
Week 2	Algorithms and Flow Charts & Variables Declaration
Week 3	Problem Solving Using C++: identifiers, data types, variables, output
Week 4	More Basics: arithmetic expressions, input, formatted output, library, const

Week 5	Variables ,Constants, Arithmetic Operations The “math.h” Library Increment /decrement Operators.
Week 6	Increment /decrement Operators
Week 7	Operational Assignment Operators Relational Operators Logical Operators.
Week 8	Selection Statements: The Single If Statement Structure. Nested If and If/else Statements Conditional Statement.
Week 9	Switch Selection Statement (Selector)
Week 10	While Repetition Structure.
Week 11	Do/While Statement
Week 12	For Statement
Week 13	Break and continue statement
Week 14	More about For Statement. Nested Loops.
Week 15	Function
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Explain Menu, Getting Started with C++.
Week 2	Variables Declaration
Week 3	Input, Output Statements
Week 4	Input, Output Statements
Week 5	Mathematical function
Week 6	Mathematical function
Week 7	Assignment Operators Relational Operators Logical Operators
Week 8	If Statements
Week 9	Switch Statements
Week 10	While Statements
Week 11	Do/While Statements
Week 12	For Statements
Week 13	Break and continue statement
Week 14	For Statements
Week 15	Function

Delivery Plan (Weekly Tutorial) المنهاج الاسبوعي الدراسي	
Week	Material Covered
Each week, a question sheet related to the material presented in the theoretical lecture will be solved and debated.	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	The Complete Reference Borland C++, By Herbert Schildt, Mc_GrawHill	Yes
Recommended Texts		No
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				