MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Introduction to Programming**			**Module Delivery**	
Module Type	**Core**			☒**Theory** ☒**Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	COM-111				
ECTS Credits	8				
SWL (hr/sem)	200				
Module Level			**Semester of Delivery**	1	
Administering Department	COM		**College**	cos	
Module Leader	Taha Mohammed Hasan		**e-mail**	dr.tahamh@uodiyala.edu.iq	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	Programming Fundamentals (II)	**Semester**	2

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	The educational objectives of this course are 1- To Focus Fundamentals of Computers and Peripherals 2- To Introduce programming language and aware the students about programming paradigm 3- To Focus Concept and Methodology of Programming 4- Brief the students regarding Object Oriented Programming Features 5- To give clear idea of different strategy of basic programming with C like Looping, Decision Making, Array, Structure, Function, Pointer, etc. to solve real life problems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- On successful completion of the course, the student will be having the basic knowledge of programming paradigm, fundamentals of computer and peripherals and thus being prepared with the programming spectrum in depth as desired. 2- Student will be able to effectively solve any real-life problem and lead the exploration of new application and techniques for their use.

Indicative Contents
المحتويات الإرشادية
	• Introduction to Computer Programming
	• Basics of C++ language
	• Problem Solving and Algorithm Design
	• Pseudo-codes and Flow charts
	• Arithmetic Operators and Variables
	• Exploring input and output statements
	• Control Structure (Selection and iterative)
	  ○ Functions
	• Primary data structure of Arrays and its multi – dimensional behavior.
	  ○ Concepts of Pointers
	• Introductory knowledge of Structures

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	• Lectures • Tutorials • Problem solving • Lab • Case study • Small project

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	109	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	7

Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	91	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**200**		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	2 and 7	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 10	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction – History of programming languages. Low-level languages and High-level languages.
Week 2	Problem solving - Flowcharts and pseudocode algorithms.
Weeks 3,4,5 and 6	Introduction to C/C++ programming language: • History of C/C++ • C++ standard Library. • C++ Environment. • General structures of C/C++ • programming language. • Data types. • Variables declaration/definition. • Directives. • Inputs and outputs.

	Simple programming
Week 7	Mid-term Exam
Week 8	Arithmetic and operators: Arithmetic operators. Operator's precedence. Equality and relational operators. Sequences.
Weeks 9 and 10	Control Structures: • Selection and Decisions: • if • if…else. • nested if • switch
Weeks 11,12 and 13	Control Structures: • Iteration: • for • while • do while
Weeks 14 and 15	Array: • Array definition (one-dimensional array). • operations on array (add, subtraction, multiplication and invers of array).
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Problem solving and Algorithms
Week 2	Introduction to C/C++ Integrated development Environments (IDE).
Weeks 3 and 4	Introduction to C/C++ programming. Writing simple programs that involve using input/output statements. identify and fix common syntax errors.
Weeks 5 and 6	Data type, Operators, and Expressions
Weeks	Control structure

7,8,9 and 10	writing program using if, if..else, switch, for, while &do…while control structure
Weeks 11,12 and 13	Array (one-dimensional array). Operations on array

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	• Deitel & Deitel, 2017, "C++ How to Program", Tenth Edition, Pearson Education. • D. S. Malik, 2018, "C++ programming from Problem Analysis to Program Design", Eighth Edition, Cengage Learning.	Yes
Recommended Texts	• Stanley B Lippman; Josée Lajoie; Barbara E, 2013, "C++ PRIMER",5th Edition, Addison Wesley	No
Websites	1-http://www.cplusplus.com/ 2-https://www.w3schools.com/cpp/	

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

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.