	Ministry of Higher Education and Scientific Research - Iraq Al-Nahrain University College of Science Computer Science Department	

MODULE DESCRIPTION FORM
نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Structured Programming			**Module Delivery**	
Module Type	Elective			☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	COMP2106				
ECTS Credits	6.0				
SWL (hr/sem)	150				
Module Level	2		**Semester of Delivery**	1	
Administering Department	Computer science		**College**	Science	
Module Leader	Dr. Ghassan Abdulhakeem		**e-mail**	ghassan.alnuaimi@nahrainuniv.edu.iq	
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Hanaa Mohammed, Basheer Ameen		**e-mail**		
Peer Reviewer Name	Dr. Jamal Mohamad		**e-mail**		
Scientific Committee Approval Date			**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	• Understand fundamental concepts of structured programming. • Make programs easier to comprehend from a reader's point of view. • Improve the clarity, quality, and development time of a computer program. • Discover new tools and data structure in C language that assist building a wide variety of programs.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	• Develop a C programs • Control the sequence of the program and give logical outputs • Deal with different data types. • Manage I/O operations in your C program • Repeat the sequence of instructions and points for a memory location • Apply code reusability with functions and pointers • Implement strings in your C program • Understand the basics of file handling mechanisms • Explain the uses of pre-processors and various memory models
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	• Weekly lectures, PowerPoint slides, group discussion and weekly tasks • Following the teaching strategies in the class, providing digital material, and students engagement during the lecture.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	7, 14	All
	Assignments	1	10% (10)	15	All
	Projects / Lab.	1	20% (20)	Continuous	All
	Report	0			
Summative assessment	**Midterm Exam**	2 hr	10% (10)	10	All
	Final Exam	3hr	50% (50)		All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to structured programming, fundamentals of C language.
Week 2	Variables, data types and arithmetic expressions.
Week 3	Program Loops: for, nested loops, while, do, break, continue
Week 4	Conditional Statements: if, if-else, nested if, else if, switch, conditional operator
Week 5	Arrays (One dimensional arrays): The concept of array, defining arrays, initializing arrays.
Week 6	Arrays (Two dimensional arrays): Defining multidimensional arrays, Variable length array.
Week 7	Functions: Defining a function, calling a function, arguments, local variables, returning function results, declaring a function prototype.
Week 8	Functions: Global variables, nested functions.
Week 9	Strings: Characters and arrays, initializing, operations on strings.
Week 10	Mid exam
Week 11	Structures in C language.

Week 12	Pointers: Pointers and addresses, pointers and function arguments.
Week 13	Pointers and arrays, pointer arithmetic, pointers and strings, dynamic memory allocation
Week 14	Working with files.
Week 15	Continue working with files.

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Writing the first C program.
Week 2	Get used to variables, data types and arithmetic expressions.
Week 3	Writing programs using different types of loops.
Week 4	Programs with conditional statements and switch.
Week 5	Building programs with one dimensional array.
Week 6	Building programs with two dimensional arrays.
Week 7	Building programs that implying functions.
Week 8	Building programs that implying nested functions.
Week 9	Building programs with Strings
Week 10	Mid exam
Week 11	Implying structures in the program.
Week 12	Building programs with pointers – Part 1.
Week 13	Building programs with pointers – Part 2.
Week 14	Creating files in C.
Week 15	Read & Write operations on files.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**

Required Texts	Stephen G. Kochan, Programming in C, Developer's Library, Third Edition, 2005, ISBN-13: 978-0-672-32666-0.	No
Recommended Texts	H Schildt, "C the complete reference", Fourth Edition, 2000	No.
Websites	**http://debracollege.dspaces.org/bitstream/123456789/78/1/C%20The%20Complete%20Reference%20by%20Herbert%20Schildt.pdf**	

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.