	Ministry of Higher Education and Scientific Research - Iraq University of Technology Computer Science Department Software Branch	

MODULE DESCRIPTOR FORM
نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Programming fundamental**			**Module Delivery**	
Module Type	CORE			**-Theory Lecture** **-Lab** **-PracticalSeminar**	
Module Code	PRFU111				
ECTS Credits	8				
SWL (hr/sem)	200				
Module Level	1		**Semester of Delivery**	1	
Administering Department			**College**		
Module Leader	Lecture Yasir M. Ismaeel		**e-mail**	110024@uotechnology.edu.iq	
Module Leader's Acad. Title	Lecture		**Module Leader's Qualification**	M.Sc.	
Module Tutor	None		**e-mail**	None	
Peer Reviewer Name			**e-mail**		
Review Committee Approval			**Version Number**		

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	1. To develop problem solving skills 2. This course deals with the basic concept of Algorithms. 3. To understand the meaning of programming.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Understanding the meaning of algorithms and how to write it 2. Understand the various types of data 3. Learn how to draw flowchart. 4. Understanding the main data types in C++ , and logical and mathematics operations 5. Capable of writing While an For statements in the program. 6. Have the ability to use conditions (IF , IF else) statements
Indicative Contents المحتويات الإرشادية	1. Explain the steps involved in problem definition and analysis. 2.Learn how to write algorithm and draw the flowchart to solve a particular problem 3. Define program that capable of reading and printing data. 4. Learn how to repeat execution of a block of statements (While, For) 5. Learn how to use conditions in the program
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, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	102	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	98	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	7
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**	1	10% (10)	5	LO # 1 and 3
	Practical Seminar(Lab).	2	15% (15)	Continuous	LO # 2 , 4 and 5
Summative assessment	**Midterm Exam**	1 hr	15% (15)	14	LO # 1 to 5
	Final Exam	3hr	60% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	• Introduction, Procedural Programming Principles • Introduction to algorithm • Algorithms example
Week 2	• Flowchart definition and its symbols • Flowchart examples
Week 3	• C++ programming language • Structure of C++ program • Reserved words and Header files • Character set and Identifiers • Variable and Constant • Data type (int , float , char , void) • Cout , Cin

Week 4	• Constant • % operator • IF statement • Compound IF statement • IF / ELSE statement
Week 5	**Quizzes**
Week 6	• && , || with if statement • ELSE IF statement
Week 7	• Switch statement • Nested switch statement
Week 8	• C++ operators : Arithmetic , Assignment ,Comparison ,Logical • Operators precedence
Week 9	• Unary operators (++ , --) • Prefix ,Postfix notation
Week 10	• Examples of order evaluation • "math.h" library : Exp,Log,Sin, Cos,Tan,Pow,Sqrt
Week 11	• While statement
Week 12	• Do / While statement
Week 13	• For loop statement
Week 14	**Midterm Exam**
Week 15	**Preparatory Week**
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to C++ environment
Week 2	Introduction to C++ environment
Week 3	• C++ programming language • Structure of C++ program • Reserved words and Header files • Character set • Variable and Constant • Data type (int , float , char , void) • Cout , Cin

Week 4	• IF statement • Compound IF statement • IF / ELSE statement • Constant • % operator
Week 5	**Quizzes**
Week 6	• && , || with if statement • ELSE IF statement
Week 7	• Switch statement • Nested switch statement
Week 8	• C++ operators : Arithmetic , Assignment ,Comparison ,Logical • Operators precedence
Week 9	• Unary operators (++ , --) • Prefix ,Postfix notation
Week 10	• Examples of order evaluation • "math.h" library : Exp,Log,Sin, Cos,Tan,Pow,Sqrt
Week 11	While statement
Week 12	Do / While statement
Week 13	For loop statement

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Mastring C++, Amman-Jordan, AL-Shorok, 2002	Yes
Recommended Texts	1- OqeiliSalch, prof. Department of IT-AL-Balqa Applied University. .	No
Websites		

APPENDIX:

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	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB 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.