	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	SOFTWARE ENGINEERING			**Module Delivery**	
Module Type	CORE			**-Theory Lecture** **-Lab** **-PracticalSeminar**	
Module Code	SOEN125				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level	1		**Semester of Delivery**	2	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader	Samer raad azzawi		**e-mail**	Samer.r.azzawi@uotechnology.edu.iq	
Module Leader's Acad. Title	Assit. Lecturer		**Module Leader's Qualification**	Msc.	
Module Tutor	None		**e-mail**	None	
Peer Reviewer Name			**e-mail**		
Review Committee Approval			**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	1. To understand the basics of software development. 2. To understand the characteristics of software. 3. To understand the concepts of software process model.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Get an idea of the structure of the software. 2. Recognize how software is developed. 3. List the various terms associated with software development. 4. Discuss the various software process model.
Indicative Contents المحتويات الإرشادية	Introduction to SW engineering, Computer software, What is software engineering, The evolving role of software, Software characteristics, Software engineering principles, The Characteristic of software engineer, Software applications, Software systems, Software development, A crisis on the horizon, The attribute of good software, Software lifecycle, Software Engineering-A Layered technology, Software process models, The waterfall model, The prototype model , The RAD model, Evolutionary software process models, The incremental model, The spiral model, Component based development, Introduction to Software process and project metrics, Measures , Metrics and Indicators, Metrics in the process and project domains, Process metrics, Project metrics, Software measurement, size oriented metrics, function oriented metrics, computing function point, Software Quality Metrics, Defect removal efficiency ,Integration metrics with software process, Statistical process control, Metrics for small organization, Establishing a software metrics 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)	78	**Structured SWL (h/w)**	5

الحمل الدراسي المنتظم للطالب خلال الفصل		الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	47	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	1	10% (10)	5	LO #1, 2,and 3
	Practical Seminar(Lab).	2	15% (15)	Continuous	LO #1, 2,and 3
Summative assessment	**Midterm Exam**	1 hr	15% (15)	14	LO #1, 2,and 3
	Final Exam	3hr	60% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to Software engineering, Computer software
Week 2	What is software engineering, the evolving role of software, software characteristics , software Engineering principles
Week 3	What is software engineering, the evolving role of software, software characteristics , software Engineering principles
Week 4	The characteristic of software engineer, software application, software systems ,software development, a crisis on the horizon
Week 5	The attribute of good software, software lifecycle
Week 6	Software engineering- layered technology, software process model, the waterfall model
Week 7	Mid - exam
Week 8	The prototype model l, evolutionary software process model
Week 9	The incremental model, the spiral model, the win spiral model

Week 10	Component-based development
Week 11	Introduction to software proces and project metrics, measures, metrics and indicators
Week 12	Metrics in the process and project domains, process metrics
Week 13	Project metrics, software measurement, size oriented metrics, function oriented metrics
Week 14	Computing function point, software quality metrics, defect removal efficiency, integration metrics with software process, Statistical process control, Metrics for small organization, Establishing a software metrics program,
Week 15	**Preparatory Week**
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to visual basic Drawing the program interface
Week 2	implement the tools
Week 3	Design a project, writing a code of a project
Week 4	implement the event
Week 5	implement the function
Week 6	implement the if condition
Week 7	Select case Repetition loops
Week 8	Convert the code to executable file
Week 9	Array, types of array: fixed array and dynamic array
Week 10	Single and Multi-dimensional array
Week 11	Apply design patterns to solve specific design problems
Week 12	Design a UML design diagrams to represent software
Week 13	Create different test cases for develop software
Week 14	Use Test tools and analyze results
Week 15	Develop a report for student's project

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1.Software Engineering by Roger Press Man 2001 2. Introduction to Software Engineering by Shari Lawrence andJoan M. Atlee, 2006 3. Software Engineering, by , Addison Wesly, 1999.	No
Recommended Texts		
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.