	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	ADVANCE SOFTWARE ENGINEERING	**Module Delivery**	
Module Type	CORE	**Theory Lecture**	
Module Code	ADSE214		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	2	**Semester of Delivery**	3
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	SOEN125	**Semester**	2
Co-requisites module	SOMA225	**Semester**	4

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. To provide the idea of decomposing the problem into Analysis, design, Implementation, Testing, and Maintenance phases. 2. To provide an idea of using various process models in the software industry according to given circumstances.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Get an idea of the structure of the Software Development. 2. Recognize what software development Risks are. 3. Learning the steps for software development. 4. Discuss the software Analysis.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Introduction to Software project planning, Estimation reliability factors, Project planning objective, Software Scope, Estimation of resources, Software project estimation options, Decomposition techniques, Estimation models, The structure of estimation models, The COCOMO Model, The software equation model, Automated estimation tools, introduction to risk analysis and management, reactive versus proactive risk strategies, software risks, risk projection, software quality, quality concepts, Statistical software quality, Software reliability, Software availability,Introduction to analysis concepts and principles, requirement analysis, Software requirement analysis phases, Software requirements elicitation, Facilitated action specification technique, Quality function deployment, Use case, Analysis principles Analysis principals, Information domain, Modeling, Partitioning, Sw requirement view, Software prototyping, Specification principles.

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	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	47	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.1
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**	2	5% (5)	5, 10	LO #1, 2,3 and 4
	Assignments	2	5% (5)	2, 12	LO #1, 2,3 and 4
Summative assessment	**Midterm Exam**	2 hr	20% (20)	7	LO #1, 2,3 and 4
	Final Exam	2hr	70% (70)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	➢ Introduction to Software project planning, • Estimation reliability factors, • Project planning objective,
Week 2	➢ Software Scope, Estimation of resources,
Week 3	➢ Software project estimation options,
Week 4	➢ Decomposition techniques,

Week 5	➢ Estimation models, • The structure of estimation models, • The COCOMO Model, The software equation model, • Automated estimation tools,
Week 6	➢ introduction to risk analysis and management, • reactive versus proactive risk strategies, • software risks, • risk projection, • risk refinement,
Week 7	➢ introduction to risk analysis and management, • reactive versus proactive risk strategies, • software risks, • risk projection,
Week 8	➢ software quality, • quality concepts, • Statistical software quality,
Week 9	➢ Software reliability,
Week 10	➢ Software availability,
Week 11	➢ Introduction to analysis concepts and principles, ➢ requirement analysis,
Week 12	➢ Software requirement analysis phases,
Week 13	➢ Software requirements elicitation, • Facilitated action specification technique, • Quality function deployment, • Use case, Analysis principles
Week 14	➢ Analysis principals ➢ Information domain ➢ Modeling ➢ Partitioning ➢ Sw requirement view

Week 15	➢ Software prototyping, ➢ Specification principles.

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to python Installation of python and Its IDE. PyCharm
Week 2	-Variable Declaration. - Receiving inputs. - Type conversation. - Strings. - Formatted string. - String methods.
Week 3	- Arithmetic operation. - IF STATEMENT.
Week 4	- Logical operators. - Comparison operators. - While loops.
Week 5	Steps to Create an Algorithm (Define the Problem, Plan the Solution, Design the Algorithm
Week 6	Creating an Algorithms (Implement the Algorithm, Test the Algorithm, Optimize, Document, and Review)
Week 7	Building a proposed software (software development life cycle) Requirement gathering
Week 8	Software analysis
Week 9	Software design
Week 10	Software implementation
Week 11	Software testing
Week 12	Software deployment
Week 13	Software maintenance
Week 14	Reports and discussion the project
Week 15	Final exam

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.