

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Software Engineering		Module Delivery	
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code				
ECTS Credits	6			
SWL (hr/sem)	150(6*25)			
Module Level	3	Semester of Delivery		2
Administering Department	CS	College	العلوم	
Module Leader			e-mail	E-mail
Module Leader's Acad. Title			Module Leader's Qualification	
Module Tutor			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	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 and understanding techniques of teams. 2. This course deals with the basic concept of software engineering. 3. This is the basic subject for requirements, development and all SDLC. 4. To understand unified modeling language UML. 5. To understand management activities in software.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. How to apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment. 2. An ability to work in one or more significant application domains 3. Work as an individual and as part of a multidisciplinary team to develop and deliver quality software. 4. Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle. 5. Demonstrate an ability to use the techniques and tools necessary for engineering practice. 6. Construct software project to apply the knowledge. 7. The students study planning and design of software including development processes, life-cycle models, quality issues, requirements analysis, design techniques, testing, and project management.

Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A - introduction</u> General introductory courses in software engineering the first part have been designed explicitly to support a one-semester course in introductory. software engineering Define software, software system, software engineering, products, project, what are the differences between computer science and software engineering [8 hrs.] Professional software development, Software engineering ethics, Case studies. [7 hrs]
	Agile software development, Agile methods, Plan-driven and agile development, Extreme programming, Agile project management, Scaling agile methods [15 hrs] Requirements engineering, Functional and non-functional requirements, The software requirements document, Requirements specification, Requirements engineering processes, Requirements elicitation and analysis, Requirements validation, Requirements management [15 hrs] <u>Part B -</u> System modeling, Context models, Interaction models, Structural models, Behavioral models, Model-driven engineering. [8hrs] Project planning, Software pricing, Plan-driven development, Project scheduling, Agile planning, Estimation techniques. [7 hrs]

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) (2lectur+2lab)*15weeks) الحمل الدراسي المنتظم للطالب خلال الفصل	60	Structured SWL (h/w) (60\15 week) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) (051)-60 الحمل الدراسي غير المنتظم للطالب خلال الفصل	90	Unstructured SWL (h/w) (09\15 week) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module تقييم Evaluation المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
	Midterm Exam	2 hr	10% (10)	7	LO # 1-7

Summative assessment	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Team working
Week 2	Software project planning
Week 3	Software Methods
Week 4	Software Requirements Gathering
Week 5	Functional Modeling: Use Cases and Activity Diagrams
Week 6	Structural Modeling: domain modeling
Week 7	Structural Modeling: system classes
Week 8	First exam
Week 9	Behavioral modeling
Week 10	Introduction to User Interface Design
Week 11	System Design: Software design based on GRASP principles
Week 12	System Design: Software System Architecture
Week 13	System Implementation: Verification and validation of software systems
Week 14	System Implementation: tools
Week 15	Second exam
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Introduction to java

Week 2	Lab 2: design interface in java
Week 3	Lab 3: build database in java
Week 4	Lab 4: suggest a project to work on it throw the latest weeks
Week 5	Lab 5: implement software activities on the project
Week 6	Lab 6: implement software activities on the project
Week 7	Lab 7: test the project

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	SOFTWARE ENGINEERING Ninth Edition Ian Sommerville	no
Recommended Texts	-	
Websites	-http://www.SoftwareEngineering-9.com	

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 (فقد 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.

