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

MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Delivery		**Software Engineering**	**Module Title**
☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☒ **Seminar**		**CORE**	**Module Type**
		COMP32	**Module Code**
		5	**ECTS Credits**
		125	**SWL (hr/sem)**
2	**Semester of Delivery**	3	**Module Level**
College of science	**College**	Computer	**Administering Department**
najwan.abedhassan@nahrainuniv.edu.iq	**e-mail**	Najwan Abs Hasan	**Module Leader**
MSC	**Module Leader's Qualification**		**Module Leader's Acad. Title**
	e-mail	None	**Module Tutor**
zahraa.jaaz@nahrainuniv.edu.iq	**e-mail**	**Assistant professor Zahraa Abdulhussien Jaaz**	**Peer Reviewer Name**
1.0	**Version Number**		**Review Committee Approval**

Relation With Other Modules العلاقة مع المواد الدراسية الأخرى			
	Semester	None	**Prerequisite module**
	Semester	None	**Co-requisites module**
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
main goal is to teach students and practitioners **how to engineer software systematically** — balancing **technical, human, and ethical aspects** — so they can build **useful, dependable, and maintainable systems** in the real world 1- Introduce the fundamental principles of software engineering. 2- Describe software development processes and models. 3- Develop awareness of professional practice and ethics. 4- Explain techniques for requirements, design, implementation, and testing. 5- Explore dependability, security, and safety. 6- Introduce software management and quality concepts. 7- Highlight the role of software engineering in society. 8- Provide examples of real-world systems and applications.			**Module Aims** أهداف المادة الدراسية

By the end of this course, students will be able to: 1. Explain fundamental concepts and principles of software engineering. 2. Apply appropriate process models for different project types. 3. Develop and document software requirements and design models. 4. Demonstrate understanding of testing, maintenance, and quality assurance. 5. Evaluate ethical, security, and professional responsibilities in software engineering. 6. Work effectively in teams on software design and development tasks.	**Module Learning Outcomes** مخرجات التعلم للمادة الدراسية
Introduction to Software Engineering System Requirements and Specification Software Design and Implementation Dependable Systems Advanced Software Engineering Topics Software Engineering in Practice	**Indicative Contents** المحتويات الإرشادية

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Students learn through a clear mix of lectures, regular labs to practice them, and projects that build real software	**Strategies**

Student Workload (SWL)
الحمل الدراسي للطالب

4	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	64	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل
4	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	61	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل
125			**Total SWL (h/sem)** الحمل الدراسي الكلي للطالب خلال الفصل

Module Evaluation
تقييم المادة الدراسية

Relevant Learning Outcome	Week Due	Weight (Marks)	Time/Number	As	
All		10% (10)	1	**Quizzes**	**Formative assessment**
All		10% (10)	1	**Assignments**	
All	Continuous	20% (20)	1	**Projects / Lab.**	
			0	**Report**	
All		10% (10)	2 hr	**Midterm Exam**	**Summative assessment**
All		50% (50)	3hr	**Final Exam**	
		100% (100 Marks)	**Total assessment**		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

Material Covered	Week
Introduction to Software Engineering	**Week 1**
Software Processes	**Week 2**
Agile Software Development	**Week 3**
Requirements Engineering (I)	**Week 4**
Requirements Engineering (II)	**Week 5**
System Modeling	**Week 6**
Architectural Design	**Week 7**
Midterm Exam	**Week 8**
Design and Implementation	**Week 9**

Software Testing, Software Evolution and Maintenance	**Week 10**
Dependable Systems	**Week 11**
Security and Safety Engineering	**Week 12**
Project Management&Quality	**Week 13**
Professional Practice&Ethics	**Week 14**
Preparatory Week	**Week 15**
Final Exam	**Week 16**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Material Covered	**Week**
Introduction to C#	**Week 1**
Explanation and examples of Loop types in C#	**Week 2**
Creating a database in C# and linking it to a user/Password window	**Week 3**
Connecting a C# database	**Week 4**
Midterm exam	**Week 5**
Creating code for saving, editing, deleting, and searching	**Week 6**
Performing mathematical operations on the database	**Week 7**
Connecting MySQL to C#	**Week 8**
Creating code for saving, editing, deleting, and searching	**Week 9**
Project seminar	**Week 10**

Learning and Teaching Resources مصادر التعلم والتدريس		
Available in the Library?	**Text**	
	Software Engineering 10 – Solutions Manual	**Required Texts**
		Recommended Texts
		Websites

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Definition	**Marks (%)**	التقدير	**Grade**	**Group**
Outstanding Performance	90 - 100	امتياز	**A -** Excellent	**Success Group (50 - 100)**
Above average with some errors	80 - 89	جيد جدا	**B -** Very Good	
Sound work with notable errors	70 - 79	جيد	**C -** Good	
Fair but with major shortcomings	60 - 69	متوسط	**D -** Satisfactory	
Work meets minimum criteria	50 - 59	مقبول	**E -** Sufficient	
More work required but credit awarded	(45-49)	مقبول بقرار	**FX** – Fail	**Fail Group (0 – 49)**
Considerable amount of work required	(0-44)	راسب	**F** – Fail	
			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.



ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي