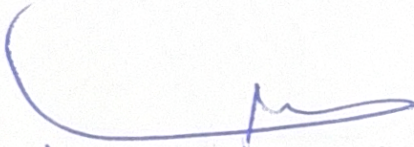
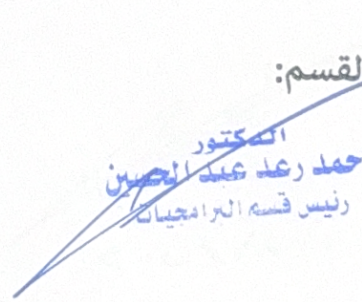


وزارة التعليم العالي والبحث العلمي
جهاز الإشراف والتقويم العلمي
دائرة ضمان الجودة والاعتماد الأكاديمي

استمارة وصف البرنامج الأكاديمي للكليات و المعاهد

الجامعة: واسط
الكلية/ المعهد: كلية علوم الحاسوب وتكنولوجيا المعلومات
القسم العلمي: البرامجيات
تاريخ ملء الملف: 20/9/2025

التوقيع: 
اسم معاوني العلمي: أ.م. د. عبد الله محمد علي
التاريخ: ٢٠٢٥/٩/٢٠

التوقيع: 
اسم رئيس القسم:
التاريخ:
المكتوب: أحمد رعد عبد الحميد
رئيس قسم البرامجيات

الموافق: 
١٠/٩/٢٠٢٥

مصادقة السيد العميد


السيد العميد

دقق الملف من قبل
شعبة ضمان الجودة والأداء الجامعي
اسم مدير شعبة ضمان الجودة والأداء الجامعي:
التاريخ
التوقيع

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Mathematics 1		Module Delivery
Module Type	Elective		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Soft-114		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	Software Department/ SOFT	College	Computer Science and Information Technology College / CSCIT
Module Leader	Zainalabden Abad	e-mail	leccit3@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	MS.C
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/02/2026	Version Number	2.0

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 Objectives أهداف المادة الدراسية	This course studies the mathematical elements of computer science. Topics include propositional logic; predicate logic; mathematical reasoning; techniques of proof; mathematical induction; set theory; number theory; matrices; sequences and summations; functions, relations and their properties, elementary graph theory, and tree.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Learning outcomes are concise descriptions of what students will learn and how that learning will be assessed.
Indicative Contents المحتويات الإرشادية	In general, mathematics is the study of numbers, quantities, and shapes ² . It is a subject that is used in everyday life and is essential in many careers such as engineering, science, and finance ³ .

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Type something like: 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 types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	109	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	91	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
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	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to plane geometry
Week 2	function and graph
Week 3	slope of curves
Week 4	derivative of function
Week 5	computations of derivatives-sum,
Week 6	product, and quotient formulas
Week 7	Mid-term Exam
Week 8	chain rule
Week 9	implicit differentiation, applications of derivatives to optimization problems and related rate problems
Week 10	implicit differentiation, applications of derivatives to optimization problems and related rate problems
Week 11	mean-value theorem;
Week 12	definite integrals and fundamental theorem of calculus application of definite integrals to computations of areas (length, surface) and volumes.
Week 13	application of definite integrals to computations of areas (length)
Week 14	application of definite integrals to computations of areas surface
Week 15	application of definite integrals to computations of areas volumes.

Week 16	Preparatory week before the final Exam
---------	--

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Thomas Calculus", 12thED, George B. Thomas Jr., Maurice D. Weir, Joel R. Hass, 2009 Differential Equations (Schaum's Outlin Series).	Yes
Recommended Texts	2. Calculus (Haward Anton).	yes
Websites	3. Advanced Engineering Mathematics (Erwin Kreyszig)	

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 (قيد 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.



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Human Rights & Democracy		Module Delivery
Module Type	S		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Uni-101		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	1	Semester of Delivery	
Administering Department	Software Department/ SOFT	College	Computer Science and Information Technology College / CSCIT
Module Leader	Ibrahim Abdulkadhim	e-mail	ibrahim.abdulkadhim@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Master
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/02/2026	Version Number	2.0

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 Objectives أهداف المادة الدراسية	In order to educate the new generation about Democracy, because these concepts are of great importance, which is clearly evident in Iraq, because one of the most important reasons for the collapse of the security situation in Iraq is the absence of full awareness of the importance of these concepts
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	A- Knowledge and Understanding A1: Knowing the facts about the concept of Democracy and how this concept is applied at the level of countries B- B- Subject-specific skills B1: The student compares and analyzes the reality of democracy in his country and how these concepts are applied internationally to know the weaknesses and negatives of application in his country
Indicative Contents المحتويات الإرشادية	That the student uses these concepts of the subject he learned in his practical and professional life

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Type something like: 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 types of simple experiments involving some sampling activities that are interesting to the students.

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	concept of Rights(DefinitionCharacteristics-Categories)
Week 2	Human rights in the divine laws (Christian, Jewish and Islamic religions)
Week 3	man rights sources (ainternational sources
Week 4	human Rights Sources (BNational Sources
Week 5	Human rights guarantees (a - guarantees at the national level
Week 6	Human rights guarantees at the international level
Week 7	Mid-term Exam
Week 8	The concept of democracy - forms of democracy (1 - direct democracy
Week 9	Parliamentary democracy (the concept of the representative system - the pillars of the representative system)
Week 10	Forms of the parliamentary system (1- the council system, 2- the presidential system)
Week 11	- Parliamentary system
Week 12	Parliament* (the mechanism of the parliamentary system "election" - the concept of election - the electorate)
Week 13	The concept of semi-direct democracy - manifestations of semi-direct democracy
Week 14	Organizing the election process
Week 15	Organizing the election process
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Human rights, children and democracy Dr. Maher Saleh	Yes

Recommended Texts	Allawi Al-Jubouri and others - Lectures on democracy - Dr. Faisal Shatnawi	yes
Websites	Google	

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 (قيد 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.				





MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Digital Logic Design 1		Module Delivery	
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☒ Seminar	
Module Code	Soft-113			
ECTS Credits	7			
SWL (hr/sem)	175			
Module Level	1 1	Semester of Delivery		1
Administering Department	Type Dept. Code	College	Type College Code	
Module Leader	Ali AbdulMuniem		e-mail	amuniem@uowasit.edu.iq
Module Leader's Acad. Title	Professor		Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)		e-mail	E-mail
Peer Reviewer Name	Name		e-mail	E-mail
Scientific Committee Approval Date	01/09/2025		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 Objectives أهداف المادة الدراسية	Logical design and installation of calculators material taught to identify parts of the calculator as well as the cipher in which it operates and how the calculator signal through electronic circuits inside the calculator transmitted and how the data is stored in the calculator's memory process.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Understanding Boolean Algebra and its application to digital circuit design. 2. Design and implement combination circuit using basic logic gates such as AND OR and NOT gates. 3. Design and implement sequential circuits using flip-flops and other sequential logic components. 4. Analyze, the behaviour of digital circuits using truth tables, timing diagrams, and other tools. 5. Optimize digital circuits for speed, power consumption, or other perf metrics. 6. Use computer-aided design (CAD) tools such as Verilog, VHDL, and SP simulate and validate digital circuits. 7. Understand the limitations of digital circuits and how to mitigate them in designed 8. Identify and analyze different types of digital circuits, such as adders, counters, and memory circuits. 9. Design and implement digital circuits for specific applications, such as data processing, control systems, or communication systems. 10. Communicate effectively about digital circuit design, including the ability to read and write technical documents, present designs, and collaborate with others.
Indicative Contents المحتويات الإرشادية	The indicative contents of logic design may include the following: 1. Introduction to digital circuits and logic gates: This includes an overview of digital circuits, logic gates, Boolean algebra, and truth tables. 2. Combinational logic design: This includes designing combinational circuits using basic logic gates, Karnaugh maps, and Boolean algebra. 3. Sequential logic design: This includes designing sequential circuits using flip-flops, registers, counters, and other sequential logic components. 4. Analysis and optimization of digital circuits: This includes analyzing digital circuits using truth tables, timing diagrams, and other tools, as well as



	optimizing circuits for speed, power consumption, or other performance metrics. 5. Computer-aided design (CAD) tools: This includes using popular CAD tools such as Verilog, VHDL, and SPICE to simulate and validate digital circuits.
--	---

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 types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	140	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	61	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	200		

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

	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		



Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Number system and number system operation
Week 2	Number system and number system operation(binary coded, decimal and digital codes)
Week 3	Digital system arithmetic Addition and subtraction
Week 4	1's&2's complement of binary number.
Week 5	Subtraction with compliment
Week 6	Logic gates and half adder, full adder
Week 7	Boolean algebra, logic simplification and Demorgan's theorems
Week 8	Boolean algebra, logic simplification and Demorgan's theorems
Week 9	evaluation examine
Week 10	Boolean algebra and logic simplification(simplification by karnaugh map-three and four variable karnaugh-map)
Week 11	Examples for k-map & Don't care and examples of don't care
Week 12	Combinational logic gate NAND4-bit parallal adder
Week 13	Combinational logic gate NOR, 4-bit parallal adder
Week 14	Combinational logic Decoders
Week 15	Combinational logic Encoders
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: introduction to digital logic and boolean algebra.
Week 2	Lab 2: Combinational Logical Design.
Week 3	Lab 3: Sequential Logical design.
Week 4	Lab 4: finite State machines.



Week 5	Lab 5: Timing and clocking
Week 6	Lab 6: Memory and the programmable logic.
Week 7	Lab 7: System on chip design.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Digital design: Principles And practises , Fundamentals Of digital logic with Verilog design Introduction To digital systems. Digital Electronics. Device and application. Logic and computer design fundamentals. Digital logic design.: Rigorous approach, Digital system design using VHDL..	Yes
Recommended Texts	Design design: With an Introduction to the Verilog HDL Logic design: a review of the theory and practise Digital system: and applications. Digital logic circuits analysis and design. Fundamentals of digital logic and microcomputers design.	yes
Websites		

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 (قيد 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.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	Object Oriented Programming 1		Module Delivery	
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☒ Seminar	
Module Code	Soft-223			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level		2		Semester of Delivery
Administering Department		Software	College	Computer science and IT
Module Leader	Thaer Faraj Ali		e-mail	thaerali@uowasit.edu.iq
Module Leader's Acad. Title			Module Leader's Qualification	M.SC
Module Tutor	Thaer Faraj Ali		e-mail	E-mail
Peer Reviewer Name			e-mail	E-mail
Scientific Committee Approval Date		1/9/2025	Version Number	2

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 Objectives أهداف المادة الدراسية	- Enhancing the student's awareness in the field of logical thinking and analysis . - Planning to solve complex problems and dividing them into small problems that simplify their solution . - The student mentally understands object-oriented programming..
Module Learning	The first strategy is to show how to identify the problem in the outside world and transfer it to the digital reality.

Outcomes مخرجات التعلم للمادة الدراسية	تعزيز وعي الطالب في مجال التفكير المنطقي والتحليل . التخطيط لحل المشاكل المعقدة و تجزئتها إلى مشاكل صغيرة ييسر حلها الطالب ذهنيا لفهم البرمجة كائنات الشبيبي
Indicative Contents المحتويات الإرشادية	- The first strategy is to show how to identify the problem in the outside world and transfer it to the digital reality. - Encouraging the student to participate daily and develop the self-ability to enter into discussions and solutions for daily exams that address specific points, including knowing the level of understanding, linking the elements of the material presented in daily lectures, as well as evaluating listening, following, talking and reading the approved sources for the material. - Adopting modern methods in presenting the material and presenting it in a way that makes it easy for the student to refer to the sequential titles in presenting the material is considered one of the most important strategies used in delivering the material

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted is to Enhance the student's awareness in the field of logical thinking and analysis. Planning to solve complex problems and dividing them into small problems that simplify their solution . The student mentally understands object-oriented programming.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل		Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل		Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		



Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	5 and 10	LO #1, #2 and #10, #11
	Assignments	1	5% (5)	2 and 12	LO 3-4-5-6

Summative assessment	Projects / Lab.	1	5% (5)	Continuous	All
	Report	1	10% (10)	13	LO #4-5-6
	Midterm Exam	2hr	10% (10)	7	LO #1-6
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to OOP
Week 2	Introduction to Objects
Week 3	Functions
Week 4	Overloading
Week 5	Examples and applications
Week 6	Polymorphism
Week 7	Pointer
Week 8	Constructors
Week 9	Memory management
Week 10	Applications
Week 11	Introduction to data
Week 12	Applying Examples
Week 13	Exception
Week 14	Error control
Week 15	Useful Libraries in OOP
Week 16	Final Exam
Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي العملي	
	Material Covered



Week 1	Loops
Week 2	Array
Week 3	Structure
Week 4	Function
Week 5	Call by reference and by arguments
Week 6	Examples of function
Week 7	Pointer
Week 8	Pointer and array
Week 9	Class
Week 10	Constructor of class
Week 11	Examples
Week 12	Data structure
Week 13	Applications
Week 14	Theories behind data
Week 15	Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	- Complete guide to learn C++ - C++ Language Tutorial	
Recommended Texts		
Websites	- w3schools.com - Udemy learning C++ programming https://academy.hsoub.com/programming/cpp	



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 (قيد 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.



2MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Fundamentals of Programming 1		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Soft-112		
ECTS Credits	7		
SWL (hr/sem)	175		
Module Level	1	Semester of Delivery	
Administering Department	Software Department/ SOFT	College	Computer Science and Information Technology College / CSCIT
Module Leader	Thear farj	e-mail	thaerali@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/09/2025	Version Number	2.0

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 Objectives أهداف المادة الدراسية	1- Learn the classification of programming techniques and the operations of computer. 2- Study the basic knowledge about fundamentals of programming languages
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Study the Classification of programming, the structure and operations of a computer, basic of arithmetic operations and control structure.
Indicative Contents المحتويات الإرشادية	The indicative contents of a study program language can vary depending on the institution and the specific program. However, most programming languages courses cover the basics of programming concepts such as data types, variables, control structures, functions, and algorithms. They also cover more advanced topics such as object-oriented programming, software engineering principles, and web development.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Type something like: 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 types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل		Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل		Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل			



Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Exam	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to programming language describing how to display text, add integers
Week 2	Defining memory concepts, Arithmetic, Equality and relational Operators
Week 3	Introduction to classes and objects.
Week 4	Defining and declaring a class with a method,
Week 5	Declaring a method with a parameter
Week 6	Introducing instance variables
Week 7	Mid-term Exam
Week 8	Introducing instance variables, set methods, get methods
Week 9	Initializing Objects with constructors
Week 10	Defining floating-point numbers and type double
Week 11	Control Statements Part I - Conditional statements, repetition using while statement
Week 12	Control Statements Part I - Conditional statements, repetition using while statement
Week 13	types of repetitions, nested repetition
Week 14	compound assignment statement
Week 15	increment and decrement operators.
Week 16	Preparatory week before the final Exam



Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to programming language describing how to display text, add integers
Week 2	Defining memory concepts, Arithmetic, Equality and relational Operators
Week 3	Introduction to classes and objects.
Week 4	Defining and declaring a class with a method,
Week 5	Declaring a method with a parameter in c++
Week 6	Introducing instance variables in c++
Week 7	Mid-term Exam
Week 8	Introducing instance variables, set methods, get methods
Week 9	Initializing Objects with constructors
Week 10	Defining floating-point numbers and type double
Week 11	Control Statements Part I - Conditional statements, repetition using while statement
Week 12	Control Statements Part I - Conditional statements, repetition using while statement
Week 13	types of repetitions, nested repetition
Week 14	compound assignment statement
Week 15	increment and decrement operators.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Schildt, Herbert, C++ (Computer program language), McGraw-Hill, New York: 2008.	Yes
Recommended Texts	Savitch, Walter Problem solving with C++: The object of programming/ C++, Pearson Addison Wesley, 2005.	yes
Websites	Malik, D S, C++ programming: From Problem Analysis to Program Design / C plus plus programming, Course Technology, 2009	



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 (قيد 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.				



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Computer Organization 1		Module Delivery
Module Type	Basic learning activities		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Soft-111		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	Software Department/ SOFT	College	Computer Science and Information Technology College / CSCIT
Module Leader	Ahmed hafid	e-mail	ahafidh@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/02/2026	Version Number	2.0

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 Objectives أهداف المادة الدراسية	Computer organization refers to the way in which the hardware components of a computer system are arranged and interconnected. It implements the provided computer architecture and covers the “How to do?” aspect of computer design. The aim of computer organization is to provide a clear understanding of the operation of a computer system.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	• Discussing the organization of computer-based systems and how a range of design choices are influenced by applications. • Understanding different processor architectures and system-level design processes. • Understanding the structure, function and characteristics of computer systems. • Understanding the design of the various functional units and components of computers. • Identifying the elements of modern instructions sets and their impact on processor design. • Explaining the function of each element of a memory hierarchy. • Identifying and comparing different methods for computer I/O. • Grasping the basic elements of logic circuits and other higher level modules. • Demonstrating computer organization & its programming consideration.
Indicative Contents المحتويات الإرشادية	A- Aims: The main goal of this course is to teach students the foundation of computer organization, the structure and behavior of the various functional units of the computer and how they interact to provide the processing needs of the user. The course aims to provide students with sufficient background necessary to understand the hardware operation of digital computers. Objectives include enabling students to: 1. Learn about computer functional modules. 2. Understand the algorithms used in computer arithmetic. 3. Understand the techniques used in designing a digital computer. 4. Understand the concepts related to computer architecture. 5. Understand the basics of parallel processing B- Intended Learning Outcomes (ILOs): A- Knowledge and Understanding: Students should ... A1) Learn the concepts of computer organization. A2) Know the important principles and definitions of computer architecture. B- Intellectual skills: with the ability to ... B1) Compare and analyse the techniques used in the different computer functional modules. B2) Apply the appropriate tools to a digital computer design. C- Subject specific skills – with ability to ... C1) Work on the implementation of the algorithms of the computer arithmetic. C2) Translate the learned concepts and ideas into practice. C3) Understand the main attributes of a computer system architecture. D- Transferable skills – with ability to D1)

	Possess good knowledge of the concepts of computer architecture. D2) Develop advanced techniques, tools and algorithms into complete projects. D3) Choose the appropriate computer functional module for a certain project
--	--

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Type something like: 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 types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل		Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل		Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل			

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Exam	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	1hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	basic Structure of Computers (Qualitative Discussion)
Week 2	Register Transfer and Micro-operation
Week 3	basic Computer Organization and Design
Week 4	CPU Organization
Week 5	Control Unit Hardwired Control Unit, Micro-programmed Control Unit: Control memory, Address Sequencing, conditional branching, mapping of instructions, subroutine, Design of Control Unit.
Week 6	CPU Registers Program Counter, Stack Pointer Register, Memory Address Register, Instruction Register,
Week 7	Mid-term Exam
Week 8	Instructions. Operational Code, Operands, Zero, One, Two and Three Address Instruction, Instruction Types, Addressing modes, Data Transfer and Manipulation instructions, Program control instructions.
Week 9	CISC and RISC processors Introduction, relative merits and De-merits.
Week 10	Computer Peripherals VDU, Keyboard, Mouse, Printer, Scanner (Qualitative approach).
Week 11	Memory Primary memory: ROM, PROM, EPROM, EEPROM, Flash memory
Week 12	Memory RAM: SRAM, DRAM, Asynchronous DRAMs, Synchronous DRAMs, Structure of Larger Memories, RAMBUS Memory, Cache Memory:
Week 13	memory Mapping Functions, Replacement Algorithms, interleaving, Hit and Rate penalty, Virtual memories, Address Translation, Memory
Week 14	memory Management requirements, Secondary Storage: Magnetic Hard Disks, Optical Disks, Magnetic Tape Systems.
Week 15	computer Peripherals VDU, Keyboard, Mouse, Printer, Scanner (Qualitative approach).
Week 16	Preparatory week before the final Exam



Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Principle of Windows I
Week 2	Principle of WindowsII
Week 3	Principle of Windows IV
Week 4	Format pc I
Week 5	Format pc II
Week 6	Microsoft Office
Week 7	Office WORD I
Week 8	Office WORD II
Week 9	Office excel sheet I
Week 10	Office excel sheet II
Week 11	Office excel sheet IV
Week 12	Power point I
Week 13	Power point II.
Week 14	Power point IV.
Week 15	Final

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	- Computer System Architecture, Mano, Latest edition,	Yes
Recommended Texts	• Computer Organization, Hamacher, McGraw-Hill. • Structured computer organization, Tanenbaum, Prentice Hall	yes
Websites	google	

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 (قيد 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.



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	لغة عربية (1) Arabic Language		Module Delivery
Module Type	Support or related learning activity (S)		☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	uni-101		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	1	Semester of Delivery	
Administering Department	البرامجيات	College	CSIT
Module Leader	Zahraa Raheem Masir	e-mail	zahraa.masir@uowasit.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date		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 Objectives أهداف المادة الدراسية	1. بيان أهمية دراسة اللغة العربية 2. وتعلم القراءة الصحيحة والكتابة السليمة
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	أن ينشأ الطالب على حب اللغة العربية ، والتعرف على مواطن الجمال في اللغة العربية وآدابها ، فضلاً عن تعريف الطالب بألفاظ اللغة العربية الصحيحة وتراكيبها وأساليبها السليمة بطريقة مشوقة وجذابة. وأن يكتسب القدرة على استعمال اللغة استعمالاً صحيحاً في الاتصال مع الآخرين مع اتقان جودة الالقاء وحسن التعبير. اللغة العربية لغة البيان، التي تحمل العديد من العبارات والدلالات التي تميزها عن اللغات الأخرى، فهي لسان العقل البليغ، وحكمة اللسان العاجز، فاللغة العربية هي لغة الضاد حيث أنها مستودع قوي لجميع مصطلحات العالم تضم بداخلها العديد والعديد من المعاني، حيث أن سعة اللغة العربية شاسعة وتحمل الكثير من محاسن الألفاظ، واللسان المعرب هو الأفضل والأسمى دائماً، فالقرآن عربي والحضارة عربية، وهي اللغة الغنية التي تصل إلى مستوى الكمال
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. أن يميّز الطالب الأصوات العربية ترتيباً ونطقاً صحيحاً، ويُدرك مخارجها وصفاتها الأساسية أن يتعرّف الطالب أقسام الكلام في اللغة العربية ويميز بينها من حيث المعنى والاستعمال وأن يحدد الطالب الاسم في الجملة ويُدرك علاماته ودلالاته النحوية. أن يميّز الطالب الفعل وأنواعه من حيث الزمن والاستعمال في السياق اللغوي. أن يتعرّف الطالب الحروف ووظيفتها في ربط المعاني داخل الجملة. أن يميّز الطالب بين المعرب والمبني ويحدد أثر الإعراب في تركيب الجملة. أن يفرق الطالب بين النكرة والمعرفة ويستخدمهما استخداماً صحيحاً في السياق. أن يتعرّف الطالب الأسماء الموصولة ويستخدمها في جمل صحيحة مع صلتها. أن يحدد الطالب الاسم المفرد ويستخدمه استعمالاً سليماً في الجملة. أن يتعرّف الطالب صيغة المثنى ويُجري عليها الإعراب الصحيح. أن يميّز الطالب أنواع الجمع ويستخدمها وفق القواعد النحوية الصحيحة.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	1- استراتيجية المحاضرة التفاعلية يتم تقديم المفاهيم الأساسية بأسلوب واضح، مع إشراك الطلبة من خلال الأسئلة والمناقشات القصيرة، بما يساهم في زيادة الفهم وترسيخ المعلومات. 2- استراتيجية المناقشة والحوار تشجيع الطلبة على المشاركة الفاعلة في تحليل النصوص اللغوية والأدبية، وإبداء الرأي، مما ينعّي

مهارات التفكير النقدي والتعبير الشفهي. 3- استراتيجية التعلم التعاوني تقسيم الطلبة إلى مجموعات صغيرة للعمل على تحليل نص، أو استخراج ظاهرة لغوية، بما يعزز روح العمل الجماعي وتبادل الخبرات. 4- استراتيجية حل المشكلات توظيف القضايا اللغوية (النحو، الإملاء، الأسلوب) كمشكلات تعليمية، يُطلب من الطلبة تحليلها والوصول إلى الحلول المناسبة. 5- استراتيجية التطبيق العملي تدريب الطلبة على الإعراب، والكتابة السليمة، وتحليل النصوص من خلال تمارين وأنشطة تطبيقية داخل القاعة الدراسية. 6- استراتيجية التعلم القائم على الأمثلة توضيح القواعد والمفاهيم اللغوية من خلال أمثلة متنوعة مأخوذة من القرآن الكريم، والنصوص الأدبية، واللغة اليومية. 7- استراتيجية التعلم الذاتي تكليف الطلبة بواجبات قرائية أو كتابية، وتحفيزهم على الرجوع إلى المصادر اللغوية لتعزيز الاستقلالية في التعلم. 8- استراتيجية التقويم المستمر اعتماد الأسئلة الشفوية، والاختبارات القصيرة، والأنشطة الصفية لمتابعة مستوى الطلبة وتحديد مواطن القوة والضعف، فضلاً عن الواجبات المنزلية، والامتحانات اليومية المفاجئة، والامتحانات الشهرية، والتقارير الشهرية، والامتحانات النصف فصلية. 9- الأهداف الوجدانية والقيمية الانتباه على المحاضرة، والمشاركة في المحاضرة، وتقبل المحاضرة، والرغبة في استمرار المحاضرة	
--	--

Student Workload (SWL)			
الحمل الدراسي للطلاب محسوب ل ١٥ اسبوعاً			
Structured SWL (h/sem)		Structured SWL (h/w)	
الحمل الدراسي المنتظم للطلاب خلال الفصل		الحمل الدراسي المنتظم للطلاب أسبوعياً	
Unstructured SWL (h/sem)		Unstructured SWL (h/w)	
الحمل الدراسي غير المنتظم للطلاب خلال الفصل		الحمل الدراسي غير المنتظم للطلاب أسبوعياً	
Total SWL (h/sem)			
الحمل الدراسي الكلي للطلاب خلال الفصل			

Module Evaluation			
تقييم المادة الدراسية			
Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome

Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	0	0% (0)	Continuous	All
	Report	2	20% (20)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	1hr	10% (10)	7	LO #1 - #7
	Final Exam	2hr	60% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	ترتيب الأصوات في اللغة العربية.
Week 2	اقسام الكلام/ الاسم
Week 3	الفعل
Week 4	الحرف
Week 5	المعرب والمبني
Week 6	امتحان شهري
Week 7	النكرة والمعرفة
Week 8	امتحان مد
Week 9	الاسم الموصول
Week 10	المفرد
Week 11	المثنى
Week 12	الجمع
Week 13	امتحان شهري
Week 14	مناقشة تقارير
Week 15	مناقشة تقارير



Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	None
Week 2	None
Week 3	None
Week 4	None
Week 5	None
Week 6	None
Week 7	None

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	مجموعة من المؤلفين / اللغة العربية لأقسام غير الاختصاص	Yes
Recommended Texts	كتب النحو / كتب الاملاء / المنهاج في القواعد والإعراب	No
Websites		

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 (قيد 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.



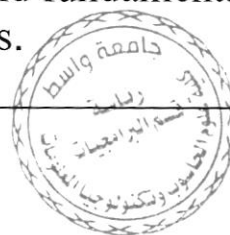
MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	Database 1		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☒ Seminar
Module Code	Soft-212		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	2	Semester of Delivery	
Administering Department	Software	College	Computer science and IT
Module Leader	Ahmed Shaker abdalrada	e-mail	aabdalra@uowasit.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	PhD
Module Tutor	Ahmed Shaker abdalrada	e-mail	E-mail
Peer Reviewer Name		e-mail	E-mail
Scientific Committee Approval Date	15\9\2025	Version Number	2

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 Objectives أهداف المادة الدراسية	A- Learning Objectives A1- To introduce the principles and fundamentals of databases, their systems, and types. A2- To apply database concepts.



	A3- To understand the importance of database concepts. A4- To identify the difference between traditional files and database concepts. A5- To identify the difference between databases and distributed database systems. A6- To be easy to use in describing database systems and systems. B- Technical Objectives of the Course B1- To reliably obtain lectures related to data requirements. B2- To be able to design a database system. B3- To be able to learn and practice on different systems and traditional and distributed databases. B4- To be able to manage dialogues and tens of thousands of them using database systems. Teaching and Learning Methods •Using technology when delivering lectures. •Writing computer programs specific to databases. •Providing the student with the main vocabulary and assistance related to database systems requirements. •Requiring the student to understand database systems. Assessment Methods •Homework assignments. •Daily quizzes. •Monthly exams. •Monthly reports. Semester Exams C- Affective and Value-Based Objectives C1- Choose a topic for the lecture C2- Participate in the lecture C3- Accept the lecture C4- Desire to attend the lecture
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Learning how to implement instructions using Microprocessor registers. 2. To provide a solid foundation on the fundamentals of microprocessors and applications.
Indicative Contents المحتويات الإرشادية	Introduction to Database Systems Data Models Entity Relational Model & Normalization



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 للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل		Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل		Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	5 and 10	LO #1, #2 and #10, #11
	Assignments	1	5% (5)	2 and 12	LO 3-4-5-6
	Projects / Lab.	1	5% (5)	Continuous	All
	Report	1	10% (10)	13	LO #4-5-6
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1-6
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		



Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to Database Systems
Week 2	Introduction to Database Systems
Week 3	Introduction to Database Systems
Week 4	Introduction to Database Systems
Week 5	Data Models
Week 6	Data Models
Week 7	Data Models
Week 8	Data Models
Week 9	Entity Relational Model & Normalization
Week 10	Entity Relational Model & Normalization
Week 11	Entity Relational Model & Normalization
Week 12	Entity Relational Model & Normalization
Week 13	Entity Relational Model & Normalization
Week 14	Entity Relational Model & Normalization
Week 15	Entity Relational Model & Normalization
Week 16	Final Exam

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي العملي

	Material Covered
Week 1	Introduction to Databases(Concepts, DBMS vs RDBMS, overview of Microsoft SQL Server)
Week 2	SQL Server Environment(Installing SQL Server, using SQL Server Management Studio)
Week 3	Database Creation(CREATE DATABASE, tables, data types)
Week 4	Basic Queries(SELECT, WHERE, ORDER BY)
Week 5	Filtering Data(AND, OR, LIKE, BETWEEN)
Week 6	Joins(INNER JOIN, LEFT JOIN, RIGHT JOIN)



Week 7	Aggregation(COUNT, SUM, AVG, GROUP BY)
Week 8	Exam 1
Week 9	Subqueries(Nested queries, EXISTS)
Week 10	Views(CREATE VIEW, updating views)
Week 11	Indexes(Clustered vs Non-clustered)
Week 12	Stored Procedures(CREATE PROCEDURE, parameters)
Week 13	Functions(Scalar & Table-valued functions)
Week 14	Triggers(INSERT, UPDATE, DELETE triggers)
Week 15	Exam 2

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	- Introduction to database Management system by Dr. Satinder Bal Gupta - Fundamentals of Database Systems, 7th Edition. Ramez Elmasri,	
Recommended Texts		
Websites		

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 (قيد 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.



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Theory of Computation		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Soft-211		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	2	Semester of Delivery	1
Administering Department	Software Department/ SOFT	College	Computer Science and Information Technology College / CSCIT
Module Leader	Saif Ali	e-mail	dean.cocit@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/02/2026	Version Number	2.0

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 Objectives أهداف المادة الدراسية	The module aims to introduce the fundamental concepts of computational theory, including automata, formal languages, and Turing machines, to understand the limits of computation. Students will develop a deep understanding of algorithmic problem-solving and the theoretical foundations of computer science.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of the module, students will be able to analyze and classify formal languages and automata, construct and evaluate computational models, and apply the concepts of decidability and complexity. They will also be able to solve problems using Turing machines and understand the theoretical limits of computation.
Indicative Contents المحتويات الإرشادية	The indicative contents of the "Computational Theory" module include foundational topics such as formal languages, automata theory (finite automata, pushdown automata), regular and context-free grammars, and Turing machines. It also covers topics like decidability, complexity classes (P, NP), and reductions, providing a comprehensive understanding of the theoretical underpinnings of computation and problem-solving. Practical applications of computational models are explored through problem sets and case studies.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy for delivering the "Computational Theory" module is to promote conceptual understanding through a blend of theoretical instruction and practical problem-solving. This will be achieved through lectures, interactive discussions, and problem-based learning activities, encouraging students to actively engage with abstract concepts. Regular assignments and collaborative projects will help reinforce the application of theory to real-world computational challenges.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا		
Structured SWL (h/sem)		Structured SWL (h/w)



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

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Computational Theory and Languages
Week 2	Regular Expressions and Properties of Regular Languages
Week 3	Regular Languages and Finite Automata



Week 4	Deterministic Finite Automata (DFA) and Non-Deterministic Finite Automata (NFA).
Week 5	Convert NFA to DFA, Convert NFA with e-move to NFA
Week 6	Context-Free Languages , Context-Free Grammars (CFGs)
Week 7	Mid-term Exam
Week 8	Regular grammar, Left linear grammar, Right linear grammar
Week 9	Derivations, parse trees, and ambiguity in CFGs
Week 10	Chomsky normal form and Greibach normal form
Week 11	Convert from CNF to GNF
Week 12	Pushdown Automata (PDA)
Week 13	Converting CFGs to PDAs and vice versa.
Week 14	Turing Machine and Fundamental Concepts
Week 15	Turing Machine Modifications and Computable Sets
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1-H.R.Lewis And G.H Papadimitiou,"Elements Of The Theory Of Computation", Prentig-Hall, 1981. 2-R.W.Floyd And R.Beigel,"The Language Of Machine:An Introduction To Computability And Formal Languages"Computer Science Press, Network,.	Yes
Recommended Texts	M.Sipser."Introduction To The Theory Of Computation", Boston Pws Pub ,1996.	yes
Websites		



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 (قيد 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.



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Numerical Analysis		Module Delivery	
Module Type	B		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	Soft-215			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	2	Semester of Delivery		1
Administering Department	Software Department/ SOFT	College	Computer Science and Information Technology College / CSCIT	
Module Leader	Elaf bhaa		e-mail	leccit2@uowasit.edu.iq
Module Leader's Acad. Title	Professor		Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)		e-mail	E-mail
Peer Reviewer Name	Name		e-mail	E-mail
Scientific Committee Approval Date	01/02/2026		Version Number	2.0

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 Objectives أهداف المادة الدراسية	A- The Goal: The main goal of this course is to enable students to understand, develop, analyze approximate solutions to algebraic, transcendental, differential equations, derivatives, integral, and hard problems; and implement the solutions using software such as MATLAB. ABET: The main Students Outcome as in ABET: 1- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions. 2- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline. 3- Apply computer science theory and software development fundamentals to produce computing-based solutions.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	A- Knowledge and Understanding A1: The ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must take into account the impact of engineering solutions in global, economic, environmental and societal contexts A2: Ability to work effectively in a team whose members provide leadership together, create a collaborative and inclusive environment, set goals, plan tasks, and achieve goals A3: The ability to develop and conduct appropriate experiments, analyze and interpret data, and use engineering judgment to draw conclusions A4: The ability to acquire and apply new knowledge as needed, using appropriate learning strategies. 1 A5: The ability to communicate effectively with a range of audiences B- Subject-specific skills B1: The ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics B2: The ability to apply engineering design to produce solutions that meet specific needs while taking into account public health, safety and welfare, as well as global, cultural, social, environmental and economic factors.
Indicative Contents المحتويات الإرشادية	This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	daily exams

	Quarterly exams practical exams Attendance and active participation in the lecture Online exams and assignments Prepare the required reports according to the given topic
--	--

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب ل ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	150	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	150	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
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	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction and explanation curriculum vocabulary Solution of non-linear equations, Newton Raphson method for approximating, Lagrange approximation.
Week 2	Numerical differentiation and numerical integration, The Solutions

Week 3	of Integral equations, Trapezoidal method Simpsons method
Week 4	Simpsons method(3/8))
Week 5	Fourier series for odd and even functions ,Half range Fourier sin and cosine series
Week 6	Formation of Partial differential equations
Week 7	Mid-term Exam
Week 8	Types of partial differential equations,wave equation,heat equation
Week 9	Numerical differentiation, Euler method, modified Euler method
Week 10	Rung Kutta method, Rung Kutta-merson method
Week 11	Numerical analysis,Elimination and iterative methods
Week 12	Cramer's rule, solve by inverse matrices
Week 13	Exercises review and solutions
Week 14	Exercises review and solutions
Week 15	Lecture Asynchronous AS/Teams
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	A- Required book(s), assigned reading and audio-visuals: A.1 Text Book: Stephen C. Chapra and Rymond P. Canale, Numerical Methods for Engineerins, Edition 8, Mc Craw Hill Education, 2018. A.2 MATLAB USER MANUAL from Moler, Cleve B. (2004), Numerical Computing with Matlab, 2004, SIAM, Philadelphia, PA. It can be downloaded along with software from http://www.mathworks.com/moler/	Yes
Recommended Texts	A- Recommended books, materials and media: 2. Todd Young and Martin J. Mohlenkamp (2012), Introduction to Numerical Methods and Matlab Programming for Engineers, Department of Mathematics, Ohio University, Athens. http://www2.mansfield.edu/mathematics/program-course-goals-objectives-and-outcomes/index.cfm	yes
Websites	Google	

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 (قيد 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.				



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Crimes Of the Baath Regime in Iraq		Module Delivery
Module Type	Basic		☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	WU05		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	2	Semester of Delivery	1
Administering Department	Software Department/ SOFT	College	Computer Science and Information Technology College / CSCIT
Module Leader	Ibrahim Abdulkadhim	e-mail	ibrahim.abdulkadhim@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/09/2025	Version Number	2.0

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 Objectives أهداف المادة الدراسية	تهدف المادة الى تعريف الطلبة بالاحداث التي مر بها العراق في الحقبة التي تولى فيها نظام حزب البعث الحكم
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	سنتناول هذه المادة من ناحية جرائم نظام البعث وفق قانون المحكمة الجنائية العراقية العليا عام ٢٠٠٥م والجرائم النفسية والاجتماعية وأثارها، وأبرز انتهاكات النظام البعثي في العراق والجرائم البيئية لنظام البعث وجرائم المقابر الجماعية.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطلاب محسوب ل ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	109	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	91	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	200		

Module Evaluation تقييم المادة الدراسية
--



		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	جرائم نظام البعث وفق قانون المحكمة الجنائية العراقية العليا عام ٢٠٠٥ / مفهوم الجرائم وأقسامها
Week 2	انواع الجرائم الدولية / القرارات الصادرة من المحكمة الجنائية العليا
Week 3	الجرائم النفسية والاجتماعية وأثارها، وأبرز انتهاكات النظام البعثي في العراق/الجرائم النفسية
Week 4	الجرائم الاجتماعية
Week 5	الجرائم البيئية لنظام البعث في العراق/ التلوث الحربي والإشعاعي وانفجار الالغام
Week 6	تدمير المدن والقرى (سياسة الأرض المحروقة)
Week 7	Mid-term Exam
Week 8	تجفيف الاهوار
Week 9	تجريف بساتين النخيل والأشجار والمزروعات
Week 10	جرائم المقابر الجماعية
Week 11	احداث مقابر الإبادة الجماعية المرتكبة من النظام البعثي في العراق
Week 12	التصنيف الزمني لمقابر الإبادة الجماعية في العراق للمدة 1963-2023

Week 13	
Week 14	
Week 15	Preparatory week before the final Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	مقرر دراسي للجامعات الحكومية والاهلية صادر عن وزارة التعليم العالي والبحث العلمي	Yes
Recommended Texts		yes
Websites		

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 (قيد 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.				



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	Data structure 1		Module Delivery	
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☒ Seminar	
Module Code	Soft-221			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	2	Semester of Delivery		2
Administering Department	Software	College	Computer science and IT	
Module Leader	Huda lafta majeed		e-mail	hulafta@uowasit.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	Asst .prof. dr	
Module Tutor	Huda lafta majeed		e-mail	E-mail
Peer Reviewer Name		e-mail	E-mail	
Scientific Committee Approval Date	21\9\2025	Version Number	2	

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 Objectives أهداف المادة الدراسية	- Overview of data structures and their properties - Types of data structures: arrays, linked lists, stacks, queues, trees, and graphs - Basic operations on data structures: searching, insertion, deletion, and sorti

	- Understanding the fundamental concepts of data structures: This includes understanding the different types of data structures (e.g., arrays, linked lists, stacks, queues, trees, graphs, etc.), their properties, and how they are used to solve various problems. - Implementing data structures: This involves writing code to implement data structures in a specific programming language, such as C++, Java, Python, or JavaScript. - Analyzing data structures: This includes analyzing the time and space complexity of operations performed on data structures, such as insertion, deletion, searching, and sorting. Choosing appropriate data structures: This involves selecting the most appropriate data structure for a given problem based on its time and space complexity requirements and other factors such as ease of use, maintainability, and scalability
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Applying data structures: This involves using data structures to solve real-world problems, such as database management, network routing, and image processing. 2. Understanding data structure algorithms: This includes understanding the algorithms used to implement data structures, such as binary search trees, hash tables, and graph traversal algorithms. Designing efficient algorithms: This involves designing algorithms that are both correct and efficient, taking into account the specific data structures used and the problem to be solved
Indicative Contents المحتويات الإرشادية	1. Introduction to data structures: This includes an overview of data structures, their properties, and how they are used to solve various problems. Arrays: This includes an introduction to arrays, their properties, and how they are used to store and manipulate data

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Choosing the right data structure: One of the most important strategies is to choose the right data structure for the problem at hand. This involves understanding the properties and trade-offs of different data structures and selecting the one that is most appropriate for the specific problem. 2. Analyzing the time and space complexity: It is important to analyze the time and space complexity of operations performed on data structures. This involves understanding how the data structure is implemented and the cost of each operation in terms of time and memory. 3. Implementing data structures efficiently: When implementing data structures, it

isimportant to use efficient algorithms and data structures that minimize the time andspace complexity of the operations performed on them.

4. Testing and debugging: As with any software development, testing and debugging are critical when working with data structures. It is important to test the data structure with a variety of inputs and edge cases to ensure that it works correctly andefficiently.

5. Modularizing code: Modularizing code can make it easier to work with data structures by breaking down complex tasks into smaller, more manageable pieces. This can make it easier to test and debug code, and can also make it easier to reusecode in other projects.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem)	الحمل الدراسي المنتظم للطالب أسبوعيا	Structured SWL (h/w)	الحمل الدراسي المنتظم للطالب أسبوعيا
Unstructured SWL (h/sem)	الحمل الدراسي غير المنتظم للطالب خلال الفصل	Unstructured SWL (h/w)	الحمل الدراسي غير المنتظم للطالب أسبوعيا
Total SWL (h/sem)	الحمل الدراسي الكلي للطالب خلال الفصل	150	

Module Evaluation

تقييم المادة الدراسية

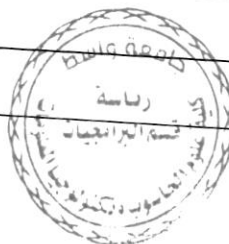
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	5 and 10	LO #1, #2 and #10, #11
	Assignments	1	5% (5)	2 and 12	LO 3-4-5-6
	Projects / Lab.	1	5% (5)	Continuous	All
	Report	1	10% (10)	13	LO #4-5-6
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1-6
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		



Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	- Overview of data structures and their properties - Types of data structures: arrays, linked lists, stacks, queues, trees, and graphs
Week 2	Introduction to arrays and linked lists Implementing arrays and linked lists in a programming language
Week 3	Basic operations on stacks and queues: push, pop, enqueue, and dequeue
Week 4	Basic operations on trees: searching, insertion, deletion, and traversal
Week 5	- Introduction to graphs - Types of graphs: directed and undirected graphs, weighted and unweighted graphs
Week 6	Introduction to advanced data structures: priority queues, heaps, tries, and suffixtrees
Week 7	Analyzing the time and space complexity of algorithms
Week 8	Techniques for improving algorithm efficiency
Week 9	Analyzing the time and space complexity of sorting algorithms
Week 10	Introduction to advanced graph algorithms: Dijkstra's algorithm, Bellman-Ford algorithm, Floyd-Warshall algorithm
Week 11	Analyzing the time and space complexity of dynamic programming algorithms
Week 12	Review of all data structures and algorithms covered in the course
Week 13	Final project to apply data structures and algorithms to a real-world problem
Week 14	Applying Examples
Week 15	exam



Week 16	Final Exam
---------	------------

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي العملي

Material Covered

Week 1

- Types of data structures: arrays, linked lists, stacks, queues, trees, and graphs

Week 2

- Basic operations on data structures: searching, insertion, deletion, and sorting

Implementing a simple data structure in a programming language

Week 3

Implementing a simple data structure in a programming language

Week 4

- Implementing stacks and queues in a programming language

Week 5

Basic operations on stacks and queues: push, pop, enqueue, and dequeue

Week 6

- Introduction to trees

Week 7

- Types of trees: binary trees, binary search trees, AVL trees, and B-trees

Week 8

- Introduction to advanced data structures: priority queues, s, tries, and suffix tree

Introduction to advanced data structures: priority queues, s, tries, and suffix trees

Week 9

- Implementing advanced data structures in a programming language

Week 10

Examples

Week 11

Basic operations on advanced data structures: searching, insertion, deletion, and sorting

Week 12

Basic operations on hash tables: searching, insertion, and deletion

Week 13

- Implementing arrays and linked lists in a programming language

Week 14

Examples

Week 15

Exam

Learning and Teaching Resources



مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	W.Ford & W.Topp, Data structure with C++, Prentice Hall, 1996	
Recommended Texts	1. "Data Structure and Programming Design in C++", Robert L. Kruse and Alexander J. Ryba, Prentice Hall, 2005. 2. "Data Structure via C++", A. Michael Berma, Oxford University Press, 1997.	
Websites	www.cs.uallberta.ca/~holte/T26/top.realTop.html	

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 (قيد 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.



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Computer Networks and Communications 1		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Soft-316		
ECTS Credits	4		
SWL (hr/sem)	440		
Module Level	3	Semester of Delivery	
Administering Department	Software Department/ SOFT	College	Computer Science and Information Technology College / CSCIT
Module Leader	Ahmed Raad	e-mail	araad@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/02/2026	Version Number	2.0

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 Objectives أهداف المادة الدراسية	1- Understand the foundational principles of computer networks, including network architecture, protocols, and communication models. 2- Develop practical skills in configuring and managing basic network

	components, ensuring effective data transmission and network performance.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Students will understand key networking concepts such as OSI and TCP/IP models, configure and troubleshoot basic network devices, analyze data communication processes, demonstrate knowledge of IP addressing and routing protocols, apply skills to design simple networks, and resolve basic network connectivity issues using diagnostic tools.
Indicative Contents المحتويات الإرشادية	The indicative contents for Computer Networking 1 include an introduction to network fundamentals, covering OSI and TCP/IP models, network topologies, and protocols. It also includes detailed discussions on IP addressing, subnetting, routing, and switching. Practical aspects such as configuring routers and switches, understanding LAN and WAN technologies, and basic troubleshooting techniques are also part of the course. Additionally, students will learn about data transmission processes, error detection methods, flow control, and the use of diagnostic tools for network management.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategies for delivering the Computer Networking 1 module include fostering hands-on learning through lab exercises and practical configurations, supported by theoretical lectures to explain key concepts. Real-world problem-solving tasks will be integrated to help students apply the knowledge gained in practical scenarios. Collaborative projects and continuous feedback will further enhance student engagement and understanding, ensuring a balance between theory and practice.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب ل ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	109	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	91	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	200		

Module Evaluation تقييم المادة الدراسية				
	Time/Number	Weight (Marks)	Week Due	Relevant Learning

					Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to data communications, network types, and OSI model.
Week 2	TCP/IP protocol suite and addressing basics.
Week 3	Physical layer, data and signals, analog vs. digital.
Week 4	Digital signal transmission and performance.
Week 5	Connecting devices: hubs, switches, routers.
Week 6	Data link layer, error detection, CRC, and flow control.
Week 7	Mid-term Exam
Week 8	Network layer, classful vs. classless addressing.
Week 9	IP routing, routing tables, and components.
Week 10	Routing algorithms: static vs. dynamic, hop-by-hop vs. source routing.
Week 11	Transport layer, UDP, TCP, and SCTP protocols.
Week 12	Congestion control and quality of service in transport layer.
Week 13	Application layer, OSI model services for end-users.
Week 14	TCP/IP application layer protocols (HTTP, DNS, DHCP).
Week 15	Common applications like email (SMTP/POP) and Telnet.
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Study different types of network cables and implement cross-wired and straight-through cables using a clamping tool.

Week 2	Explore network devices in detail.
Week 3	Study network addressing.
Week 4	Connect computers to a LAN for hands-on networking experience
Week 5	Introduction to the Packet Tracer program for network simulation.
Week 6	Basic switch configuration.
Week 7	Mid-term Exam
Week 8	Basic router configuration
Week 9	Router configuration in a small network.
Week 10	Apply network addressing in practical scenarios.
Week 11	Advanced router and switch configurations.
Week 12	Troubleshooting common networking issues.
Week 13	Setting up and managing a small-scale network.
Week 14	Review of network protocols and packet tracer usage
Week 15	Final revision and preparation for the exam.

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Computer Networks: A Systems Approach" by Larry L. Peterson and Bruce S. Davie (6th Edition, 2021)	Yes
Recommended Texts	Networked Life: 20 Questions and Answers" by Mung Chiang (1st Edition, 2021)	yes
Websites		

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 (قيد 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.



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	soft-312		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	2	Semester of Delivery	2
Administering Department	Software	College	Computer science and IT
Module Leader	Ali Fahem Neamah	e-mail	Afahim@uowasit.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	M.SC
Module Tutor	Ali Fahem Neamah	e-mail	E-mail
Peer Reviewer Name		e-mail	E-mail
Scientific Committee Approval Date		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 Objectives أهداف المادة الدراسية	1. Students acquire skills in dealing with the internal computer system infrastructure to provide a solid foundation in the basics of software development processes and methodologies 2. Familiarize students with software development life cycle (SDLC) models 3. Understand requirements engineering and software specification techniques 4. Apply software design principles, patterns, and architectural styles



	5. Implement software testing strategies including unit, integration, and system testing 6. Understand software project management, estimation, and quality assurance 7. Introduce students to agile methodologies and DevOps practices 8. Apply software engineering tools to design, develop, and deliver real-world software projects
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Analyze and document software requirements using use cases and user stories. 2. To provide a solid foundation on the fundamentals of software engineering and software development methodologies.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Introduction to Software Engineering and SDLC Models. • Requirements Engineering and Software Specification. • Software Design Principles: Cohesion, Coupling, and Modularity • Software Design Principles and Architectural Patterns. • Object-Oriented Analysis and Design using UML UML Diagrams and Object-Oriented Design Software Testing and Verification Strategies Agile Methodologies, Scrum, and DevOps Practices. • Software Project Management and Quality Assurance. • Software Maintenance, Evolution, and Configuration Management.

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 للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل		Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل		Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		



Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)		
	Assignments	1	5% (5)		
	Projects / Lab.	1	5% (5)		
	Report	1	10% (10)		
Summative assessment	Midterm Exam	2hr	10% (10)		
	Final Exam	3hr	50% (50)		
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Software Engineering: Definition, Importance, and Challenges
Week 2	Software Development Life Cycle (SDLC): Waterfall, Spiral, and Incremental Models
Week 3	Requirements Engineering: Elicitation and Analysis
Week 4	Software Requirements Specification (SRS) and Use Cases
Week 5	System Buses
Week 6	Architectural Design: Styles and Patterns (MVC, Layered, Client-Server)
Week 7	Software Quality Attributes and Metrics
Week 8	Software Testing: Unit, Integration, System, and Acceptance Testing
Week 9	Test-Driven Development (TDD) and Black-box / White-box Testing
Week 10	Agile Development: Scrum, Kanban, and Extreme Programming (XP)
Week 11	Software Project Management: Planning, Scheduling, and Estimation
Week 12	Software Configuration Management and Version Control



Week 13	Software Maintenance, Re-engineering, and Legacy Systems
Week 14	Software Quality Assurance and Code Review Practices
Week 15	Case Study: End-to-End Software Engineering Project Presentation
Week 16	Final Exam
Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي العملي	
	Material Covered
Week 1	Setting Up Development Environment: Git, IDE, and Project Structure
Week 2	Writing Software Requirements: SRS Document and User Stories
Week 3	Use Case Diagrams and Activity Diagrams using UML Tools
Week 4	Class Diagrams, Sequence Diagrams, and Object Diagrams
Week 5	Applying OOP Principles: Inheritance, Encapsulation, and Polymorphism
Week 6	Implementing Design Patterns: Singleton, Factory, and Observer
Week 7	Unit Testing with JUnit / PyTest: Writing and Running Test Cases
Week 8	Integration Testing and Code Coverage Analysis
Week 9	Agile Sprint Planning: Creating Backlog and Sprint Board in Jira/Trello
Week 10	Software Documentation: Writing Technical Reports and API Docs
Week 11	CI/CD Pipeline: Automated Build, Test, and Deployment with GitHub Actions
Week 12	Version Control with Git: Branching, Merging, and Pull Requests
Week 13	Final Project: Design, Implement, and Present a Mini Software System
Week 14	Examples
Week 15	Exam
Learning and Teaching Resources مصادر التعلم والتدريس	
	Text Available in the Library?
Required Texts	1. Sommerville, I., "Software Engineering", 10th Edition, Pearson, 2016. 2. Pressman, R., "Software Engineering: A Practitioner's Approach", 8th Edition, McGraw-Hill, 2014.



	3. Bruegge, B. & Dutoit, A., "Object-Oriented Software Engineering", 3rd Edition, Prentice Hall, 2009. 1998. 4. Larman, C., "Applying UML and Patterns", 3rd Edition, Prentice Hall, 2004.	
Recommended Texts		
Websites		

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 (قيد 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.



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Artificial Intelligence		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Soft-314		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	3	Semester of Delivery	
Administering Department	Software Department/ SOFT	College	Computer Science and Information Technology College / CSCIT
Module Leader	Muntadher Saadon	e-mail	muntadher@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/02/2026	Version Number	2.0

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 Objectives أهداف المادة الدراسية	1- The module aims Introduce students to the fundamental concepts of Artificial Intelligence and its applications in various fields such as machine learning, natural

	language processing, and computer vision. 2-Enable students to use AI techniques to design innovative solutions for complex problems using modern tools and technologies.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of the module, students will be able to demonstrate a thorough understanding of key AI concepts, including algorithms for machine learning, natural language processing, and computer vision. Apply AI methodologies to solve real-world problems, showcasing the ability to develop AI-based models and systems..
Indicative Contents المحتويات الإرشادية	Indicative contents for the Artificial Intelligence module include an introduction to AI concepts, search algorithms, knowledge representation, and machine learning. It covers natural language processing, computer vision, robotics, and AI ethics. The module also includes practical AI tools, model building, and case studies on AI applications and future trends.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy for delivering the "Artificial Intelligence" module is to foster active student engagement through hands-on AI projects and practical application of concepts. This will be achieved through a combination of interactive lectures, coding exercises, and real-world problem-solving tasks, allowing students to refine their skills in AI techniques while developing critical thinking abilities. Collaborative learning, along with continuous feedback, will further support the learning process and ensure a comprehensive understanding of AI concepts and applications.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل		Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل		Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل			

Module Evaluation تقييم المادة الدراسية				
	Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome

Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	introduction of AI
Week 2	Search Algorithms
Week 3	Knowledge Representation
Week 4	Reasoning and Problem Solving
Week 5	Introduction to Machine Learning
Week 6	Neural Networks and Deep Learning
Week 7	Mid-term Exam
Week 8	Natural Language Processing (NLP)
Week 9	Computer Vision
Week 10	Expert system
Week 11	Practical AI Tools and Frameworks
Week 12	Advanced AI Applications
Week 13	Heuristic search
Week 14	Ethics in AI
Week 15	Heuristic functions
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Install and set up Python, Jupiter Notebook, and AI libraries (Tensor Flow, Koras, Sickie-learn).
Week 2	implement Breadth-First Search (BFS) and Depth-First Search (DFS) in Python
Week 3	Implement AI algorithm and Greedy search.



Week 4	Solve problems using propositional and first-order logic in Python
Week 5	introduction to machine learning libraries (Scikit-learn).
Week 6	Build a basic neural network using TensorFlow/Keras.
Week 7	Mid-term Exam
Week 8	Introduction to NLP tools (NLTK, spaCy).
Week 9	Introduction to OpenCV and image processing.
Week 10	Implement a basic reinforcement learning agent using Python.
Week 11	Introduction to robotics simulation environments (e.g., Gazebo, ROS).
Week 12	Start developing a project using a combination of machine learning, NLP, or computer vision techniques.
Week 13	Fine-tuning models and hyperparameter optimization.
Week 14	Final Project Implementation
Week 15	Project Presentations and Review

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Artificial Intelligence: A Modern Approach by Stuart Russell and Peter Norvig (4th Edition, 2020)	Yes
Recommended Texts	Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow by Aurélien Géron (2nd Edition, 2019)	yes

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 (قيد 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.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Compilers		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Soft-311		
ECTS Credits	5		
SWL (hr/sem)	140		
Module Level	3	Semester of Delivery	1
Administering Department	Software Department/ SOFT	College	Computer Science and Information Technology College / CSCIT
Module Leader	HassanIn Hazm	e-mail	hbashagha@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/02/2026	Version Number	2.0

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 Objectives أهداف المادة الدراسية	The Compilers module equip the students with a comprehensive understanding of how compilers translate high-level programming languages into machine code. the Compilers module aims to provide both theoretical knowledge and practical skills in compiler design and implementation
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Students will be able to design and implement key components of a compiler. They will also gain practical experience using compiler construction tools.
Indicative Contents المحتويات الإرشادية	The indicative contents of a compilers module cover topics such as lexical analysis, syntax and semantic analysis, intermediate representations, optimization techniques, and code generation. Additionally, it includes practical work with compiler construction tools and error handling strategies.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Compilers learning and teaching strategies typically include a combination of lectures, hands-on coding exercises, and practical projects to reinforce concepts. Collaborative activities and discussions are also encouraged to enhance understanding of compiler design and implementation.

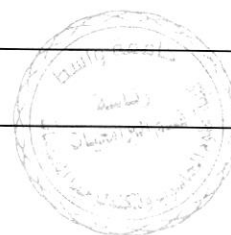
Student Workload (SWL) الحمل الدراسي للطلاب محسوب ل ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل		Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل		Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل			

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Compiler.
Week 2	Lexical analysis.
Week 3	Syntax of Analysis.
Week 4	Problems of Compiler, ambiguity, left recursion, left factoring.
Week 5	First and Follow.
Week 6	Top down Parsing, Predictive Parsing Method.
Week 7	Mid-term Exam
Week 8	Left to right-right most derivation (LL1) using parsing table.
Week 9	Bottom up LL(1), Parsing, Operation Precedence Parser.

Week 10	Simple Left to Right Parser (SLR).
Week 11	Semantic Analysis, static semantic.
Week 12	dynamic semantic.
Week 13	Intermediate Code Generation.
Week 14	Code Optimization, code optimization types.
Week 15	Code Generation.
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to VB.
Week 2	Input & output.
Week 3	Loop & if statement.
Week 4	Array.
Week 5	Functions.
Week 6	File
Week 7	Mid-term Exam
Week 8	Lexical.
Week 9	Top down.
Week 10	Left recursion.
Week 11	Left factoring.
Week 12	First.
Week 13	follow



Week 14	LR parser.
Week 15	Closure function.

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Principle of compiler design by Alfred V.Aho & Jeffrey D.Ullman	Yes
Recommended Texts	1- Compilers: principle, techniques and tools by Alfred V.Aho , Ravi Seth, Jeffrey D.Ullman. 2- Basics of compiler design by Torben Egidius mogensen	yes
Websites		

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 (قيد 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.



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Algorithms Design and Analysis 1		Module Delivery
Module Type	CORE		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Soft-313		
ECTS Credits	5		
SWL (hr/sem)	155		
Module Level	3	Semester of Delivery	
Administering Department	Department of software	College	Computer Science & IT
Module Leader	Maryam jawad kadhim alwan	e-mail	mjawad@uowasit.edu.iq
Module Leader's Acad. Title	Assistant lecture	Module Leader's Qualification	Msc
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/09/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module		Semester	



Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	• Enhancing logical thinking and analysis: Develop students' ability to think systematically and understand solution steps in an organized way. • Developing problem-solving planning skills: Train students to break down complex problems into simpler subproblems that are easier to handle. • Equipping students with algorithm design skills: Enable them to create effective solutions for diverse problems using different design strategies (Greedy, Divide & Conquer, Dynamic Programming). • Analyzing algorithm efficiency: Teach students how to evaluate performance in terms of time and space, and compare alternative solutions.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	• Understanding and analysis: Students will be able to explain fundamental algorithm concepts and describe steps using pseudocode and diagrams. • Design and development: Students will design new algorithms to solve problems using strategies such as Divide & Conquer, Greedy, and Dynamic Programming. • Evaluation and comparison: Students will analyze algorithm efficiency in terms of time and space, and compare alternative solutions to select the most suitable one. • Practical application: Students will implement algorithms in different programming environments and test them on real or simulated problems. • Critical and logical thinking: Students will develop the ability to decompose complex problems into simpler subproblems and create systematic solution plans.
Indicative Contents المحتويات الإرشادية	• Introduction to Algorithms • Definition and importance of algorithms • Characteristics of good algorithms (correctness, efficiency, simplicity) • Performance Analysis • Time and space complexity • Big-O, Big-Ω, Big-Θ notation • Best case, worst case, average case • Algorithm Design Strategies • Divide and Conquer (e.g., Merge Sort, Quick Sort) • Greedy Algorithms • Dynamic Programming • Searching and Sorting Algorithms • Linear search and binary search • Sorting algorithms: Merge Sort, Quick Sort



Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	• The first strategy lies in showing how to identify a problem in the external world and transfer it into the digital reality. • Encouraging daily student participation and developing self-ability to engage in discussions and solutions for daily exams that address specific points, such as assessing the level of understanding, connecting the elements of the material presented in daily lectures, and evaluating listening, following up, speaking, and reading from the approved sources of the subject. • Adopting modern methods in presenting the material and structuring it in a way that makes it easier for students to refer back to sequential titles in the course content is considered one of the most important strategies in delivering the subject effectively.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل		Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل		Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	200		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All

Total assessment	100% (100 Marks)		
------------------	------------------	--	--

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Algorithms
Week 2	How to Use Algorithms & Types of Algorithms
Week 3	Frequency Count
Week 4	Asymptotic Notations: Big-O
Week 5	Asymptotic Notations: Big-Theta , Big-Omega
Week 6	Decrease and Conquer Techniques
Week 7	Exam
Week 8	Divide and Conquer Techniques
Week 9	Search Algorithm Binary
Week 10	Linear search Algorithm
Week 11	Exam
Week 12	Sort Algorithm Insertion
Week 13	Selection sort Algorithm
Week 14	Sort Algorithm bubble
Week 15	Search Algorithm quick
Week 16	Method Dynamic Programming

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Write a simple algorithm (find the maximum element in an array)
Week 2	Implement one searching and one sorting algorithm on small datasets.
Week 3	Count occurrences of elements in an array.
Week 4	Compare linear search vs. binary search in terms of Big-O.
Week 5	Analyze Bubble Sort for best, worst, and average cases.
Week 6	Implement binary search practically.
Week 7	Exam: Practical test covering Weeks 1–6.

Week 8	Implement Merge Sort on sample data.
Week 9	Code and test binary search in a programming language
Week 10	Compare linear search results with binary search.
Week 11	Exam: Practical test on searching and sorting algorithms.
Week 12	implement Insertion Sort on different datasets.
Week 13	Implement Selection Sort and compare with Insertion Sort.
Week 14	Implement Bubble Sort and compare with previous sorting methods
Week 15	Implement Quick Sort on larger datasets.

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Udemy learning C++ programming	Yes
Recommended Texts	The Design and Analysis of Algorithms -Anany Levitin -Third Edition	No
Websites	1. www.w3schools.com 2. https://academy.hsoub.com/programming/cpp	

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 (قيد 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.



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Web Applications 1		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Soft-315		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	Level 3	Semester of Delivery	
Administering Department	Software Department/ SOFT	College	Computer Science and Information Technology College / CSCIT
Module Leader	Gath Ali	e-mail	galawady@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/09/2025	Version Number	2.0

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 Objectives أهداف المادة الدراسية	1. To provide students with fundamental and advanced knowledge of concepts and technologies used in modern front-end web development. 2. To enable students to design and develop interactive and responsive web pages using front-end languages and technologies in accordance with international web development standards. 3. To equip students with practical skills in utilizing user interface design and development tools, while adhering to usability and user experience (UI/UX) principles
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Explain the fundamental concepts of front-end web development and web page structure. 2. Use front-end languages and technologies to create structured and responsive web pages. 3. Design user interfaces that adhere to usability and user experience (UI/UX) principles. 4. Apply modern styling and layout techniques using advanced CSS. 5. Implement interactive elements in web pages using JavaScript. 6. Test and optimize web pages for performance, cross-browser compatibility, and responsiveness across different devices. 7. Follow international standards and best practices in front-end web development
Indicative Contents المحتويات الإرشادية	1. Introduction to Front-End Web Development. 2. HTML for structuring web pages. 3. CSS for styling, layout, and responsive design. 4. UI/UX design principles. 5. JavaScript for interactivity and dynamic content. 6. Integration of HTML, CSS, and JavaScript. 7. Best practices and international web standards. 8. Practical project: complete front-end website development

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Interactive lectures to present fundamental front-end web development concepts. 2. Hands-on laboratory learning using HTML, CSS, and JavaScript. 3. Project-based learning to enhance design and development skills. 4. Problem-solving and applied exercises to develop programming thinking. 5. Self-directed learning supported by continuous feedback



Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem)		Structured SWL (h/w)	
الحمل الدراسي المنتظم للطالب خلال الفصل		الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem)		Unstructured SWL (h/w)	
الحمل الدراسي غير المنتظم للطالب خلال الفصل		الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem)			
الحمل الدراسي الكلي للطالب خلال الفصل			

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	-	10% (10)	1 and 13	LO #1-#14
	Examinations	1hr	10% (10)	7 and 12	LO #8 - #13
	Projects	2hr	10% (10)	Continuous	LO #13
	Practical Assessment	1hr	10% (10)	7 and 12	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	HTML Fundamentals Introduction to HTML5, Editing HTML Files, HTML Document Structure, HTML Head Element, HTML, Comments, HTML Headings, HTML Paragraphs
Week 2	HTML Content and Forms HTML Attributes, HTML Text Formatting, HTML Links (Anchor Tag), HTML Images, HTML Lists, HTML Tables, HTML Tags (div, span, br), HTML5 Semantic Elements, HTML5 Forms, Form Labels, Input Elements
Week 3	CSS Fundamentals CSS Introduction, Getting Started with CSS, CSS Syntax, CSS Comments, Case Sensitivity, CSS Selectors
Week 4	CSS Styling CSS Background, CSS Text, CSS Fonts, CSS Links, CSS Tables
Week 5	CSS Box Model and Layout CSS Box Model (Padding, Margin, Border), CSS Display, CSS Overflow, CSS Visibility

Week 6	CSS Advanced Layout CSS Border Radius, CSS Flexible Box (Flexbox), Responsive Layout Concepts
Week 7	Mid-term Exam Revision of HTML and CSS Topics, Mid-Term Theoretical Examination
Week 8	JavaScript Fundamentals JavaScript Introduction, Getting Started with JavaScript, JavaScript Comments, JavaScript Variables, Generating Output, Data Types
Week 9	JavaScript Operators and Strings JavaScript Operators, JavaScript Strings, String Methods
Week 10	JavaScript Numbers and Control Statements JavaScript Numbers, Number Methods, Math Object, Conditional Statements, Switch Statements
Week 11	JavaScript Arrays JavaScript Arrays, Array Methods, Sorting Arrays
Week 12	JavaScript Loops JavaScript Loops, Loop Control, Final Theoretical Examination
Week 13	JavaScript Functions and Scope JavaScript Functions, Parameters, Return Values, JavaScript Scope
Week 14	Advanced JavaScript and User Interaction Higher-Order Functions, JavaScript Objects, Alert, Confirm, Prompt, Basic Validation
Week 15	Course Project Front-End Project using HTML, CSS, JavaScript
Week 16	final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	HTML Basics Lab Creating basic HTML files, HTML document structure, Head element, Comments, Headings, Paragraphs
Week 2	HTML Content Lab Text formatting, Links, Images, Lists, Tables, div, span, br, Semantic elements, Basic forms
Week 3	CSS Fundamentals Lab Linking CSS to HTML, CSS syntax, Selectors, Comments, Basic styling
Week 4	CSS Styling Lab Backgrounds, Text styling, Fonts, Links styling, Tables styling
Week 5	CSS Box Model Lab Padding, Margin, Border, Display, Overflow, Visibility
Week 6	CSS Layout Lab Border radius, Flexbox, Responsive layout basics
Week 7	Practical Exam HTML and CSS practical assessment
Week 8	JavaScript Basics Lab Variables, Data types, Output methods, Comments
Week 9	JavaScript Operators and Strings Lab Operators, String handling, String methods
Week 10	JavaScript Numbers and Control Lab Numbers, Math object, Conditions, Switch statements
Week 11	JavaScript Arrays Lab Arrays, Array methods, Sorting arrays

Week 12	JavaScript Loops Lab Loops, Loop control
Week 13	JavaScript Functions Lab Functions, Parameters, Return values, Scope
Week 14	JavaScript Interaction Lab Objects, Alert, Confirm, Prompt, Basic validation
Week 15	Complete front-end project using HTML, CSS, JavaScript

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	- Duckett, J. <i>HTML and CSS: Design and Build Websites</i>. Wiley. - Duckett, J. <i>JavaScript and JQuery: Interactive Front-End Web Development</i>. Wiley	
Recommended Texts	- McFarland, D. <i>CSS: The Missing Manual</i>. O'Reilly Media. - Flanagan, D. <i>JavaScript: The Definitive Guide</i>. O'Reilly Media. - Robbins, J. <i>Learning Web Design</i>. O'Reilly Media	
Websites	- W3Schools: https://www.w3schools.com - CSS Specifications (W3C): https://www.w3.org/Style/CSS - JavaScript Documentation: https://developer.mozilla.org/en-US/docs/Web/JavaScript	

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 (قيد 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.

