

Ministry of Higher Education and Scientific Research

University of Mosul

College of Petroleum and Mining Engineering



Courses Description

Mining Engineering Department

Level One / Semester Two / Bologna Process

2025-2026



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Engineering Physics		Module Delivery	
Module Type	C		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	DME121			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	UGI	Semester of Delivery		2
Administering Department	Mining engineering	College	Petroleum and Mining Engineering	
Module Leader	Abdullah Hussein Ibrahim		e-mail	abdallh.hussen@uomosul.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	PhD	
Module Tutor	None		e-mail	
Peer Reviewer Name	Eman Kassim Yahya	e-mail	eman.q@uomosul.edu.iq	
Scientific Committee Approval Date	15/10/2025	Version Number	1	

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 foundations of Identify the types of materials and their atomic and crystal structure (semiconductors for example). 2. Study of the physical properties of minerals (electrical properties). 3. This course deals with the basic concepts of metallic materials and methods of using them in electronic devices (diodes, transistors and logic gates). 4. To develop problem-solving skills and an understanding of circle theory through the application of techniques and physical laws. 5. To perform network and nodal analysis. 6. Fundamentals of electronic devices used in mining.
Module learning Outcomes مخرجات التعلم للمادة الدراسية	1. Identify the basics of the crystalline and atomic structure of materials and how to distribute atoms and electrons. 2. Studying semiconducting materials by studying their electrical properties. Know how semiconductor materials are used in the manufacture of the basics of electronic devices. 3. Identify semiconductor devices such as diodes, transistors and logic gates. 4. Knowing the laws and applications of semiconductor devices. 5. Study how the devices work individually. 6. Studying how the devices work in the electronic circuit. 7. Recognize how electricity works in electrical circuits. 8. Discuss the reaction and involvement of devices in electric circuits. Studying the application of physical laws to circuits, such as Kirchhoff's law, Ohm's law, and others. 9. Learn how to deal with electronic devices (which are the basis for command and control systems).
Indicative Contents المحتويات الإرشادية	<u>Part A - Circuit Theory</u> crystal structures and crystallography – type of crystallography, type of solid materials, crystal structure, Lattice translation vectors, Unit cell, Crystal systems, Crystal symmetry, Crystal planes and indices. [9 hrs] Atomic structure - The Atom, Electron configuration of atom, the periodic table elements, Materials Used in Electronic Devices, Current in Semiconductors, <i>N</i>-Type and <i>P</i>-Type Semiconductors, The <i>PN</i> Junction. [9 hrs] <u>Part B - Analogue Electronics Fundamentals</u> Semiconductor devices, Kirchhoff's laws, Ohm's law, Analysis of a circuit. diodes and applications, Diodes and Diode circuits – Diode characteristics and equations, ideal vs real. Signal conditioning, clamping and clipping, rectification and peak detection, photodiodes, LEDs, special diodes, Zener diodes, voltage stabilization, voltage reference, power supplies. [15 hrs] Bipolar transistor and applications. [10 hrs]

	Field-effect transistors. [10 hrs] <u>Part C - Digital Electronics</u> Digital Fundamentals Number Systems, Operations, and Codes. Logic Gates. Boolean Algebra and Logic Simplification, Half and Full Adders, Latches, Flip-Flops, and Timers. [20 hrs]
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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	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	5
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	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 in Solid State Physics - crystal structures and crystallography
Week 2	Atomic structure - The Atom, Materials Used in Electronic Devices
Week 3	Current in Semiconductors, <i>N</i> -Type and <i>P</i> -Type Semiconductors, The <i>PN</i> Junction
Week 4	Diodes and Applications , Special-Purpose Diodes
Week 5	Bipolar Junction Transistors (BJT)
Week 6	Transistor Bias Circuits
Week 7	BJT Amplifiers
Week 8	BJT Power Amplifiers
Week 9	Field-Effect Transistors (FETs)
Week 10	Number Systems, Operations, and Codes
Week 11	Logic Gates
Week 12	Boolean Algebra and Logic Simplification
Week 13	Combinational Logic Analysis
Week 14	Functions of Combinational Logic
Week 15	Latches, Flip-Flops, and Timers
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي المختبر	
	Material Covered
Week 1	Lab 1: Characteristic of Silicon Diode
Week 2	Lab 2: Half and Full Wave Rectifier
Week 3	Lab 3: Characteristic of Zener Diode
Week 4	Lab 4: The Diode Properties of the Transistor and Its IV Characteristic Curves
Week 5	Lab 5: Logic gates
Week 6	Lab 6: Half adder and Full adder operations
Week 7	Lab 7: The Gray codes to binary circuit & binary to Gray codes circuit

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	ELEMENTARY SOLID STATE PHYSICS: Principles and Applications, M. A. OMAR, Addison-Wesley Electronic Devices, Thomas L. Floyd, Tenth Edition Digital Fundamentals , Thomas L. Floyd, Eleventh Edition	No Yes No
Recommended Texts	فيزياء الحالة الصلبة , يحيى نوري الجمال, طبعة ثمانية	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 (فقد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Fundamentals of Mining Engineering		Module Delivery
Module Type	C		☒ Theory ☒ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar
Module Code	DME122		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	UGI	Semester of Delivery	
Administering Department	Mining engineering	College	Petroleum and Mining Engineering
Module Leader	Ali A. Hussein Al-Zubaidi	e-mail	ali.ameer86@uomosul.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.Sc.
Module Tutor	Non	e-mail	
Peer Reviewer Name	Hudhaifa R. Hamzah	e-mail	hudhaifahamzah@uomosul.edu.iq
Scientific Committee Approval Date	15/10/2025	Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	1
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 concepts of mining engineering and its role in the extraction and utilization of mineral resources. 2- To introduce students to surface and underground mining methods and the principles used in selecting appropriate mining techniques. 3- To develop students' understanding of basic mining operations including mine design, equipment, rock mechanics, and ventilation.

	4- To enhance students' ability to evaluate technical, economic, and environmental aspects of mining activities. 5- To promote awareness of occupational safety and sustainable practices in modern mining engineering.
Module learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of this module, students will be able to: 1. Demonstrate knowledge of fundamental mining engineering approaches and operational principles. 2. Apply appropriate methods for collecting and organizing mining-related technical data. 3. Conduct basic engineering investigations and practical activities related to mining operations and rock behavior. 4. Analyze and interpret mining engineering data using engineering judgment to draw logical conclusions.
Indicative Contents المحتويات الإرشادية	Indicative Contents – fundamentals of Mining Engineering Week 1 — Introduction to Mining Engineering 1. Guideline Contents: 2. Definition of mining engineering 3. History and development of mining 4. Importance of minerals in modern society 5. Types of mineral resources 6. Roles and responsibilities of mining engineers 7. Overview of mining industry sectors Week 2 — Mineral Resources & Economic Geology 1. Guideline Contents: 2. Minerals, rocks, and ores 3. Ore formation processes 4. Types of mineral deposits 5. Ore grade and cutoff grade 6. Resource and reserve concepts 7. Introduction to geological maps Week 3 — Mine Lifecycle 1. Guideline Contents: 2. Exploration activities 3. Feasibility studies 4. Mine planning and development 5. Production stage 6. Mine closure and reclamation 7. Economic aspects of mine lifecycle Week 4 — Mining Methods Overview 1. Guideline Contents: 2. Classification of mining methods 3. Surface mining vs underground mining 4. Factors affecting method selection 5. Orebody characteristics 6. Recovery and dilution concepts 7. Basic mining terminology Week 5 — Surface Mining I 1. Guideline Contents: 2. Open pit mining principles 3. Bench design fundamentals 4. Slope angles and pit geometry 5. Stripping ratio

	6. Haul road design basics
	7. Advantages and limitations of surface mining
	Week 6 — Surface Mining II
	1. Guideline Contents:
	2. Surface mining equipment types
	3. Excavators and shovels
	4. Haul trucks and transportation systems
	5. Drilling and blasting basics
	6. Equipment productivity concepts
	7. Equipment selection criteria
	Week 7 — Underground Mining I
	1. Guideline Contents:
	2. Underground mining principles
	3. Access development methods
	4. Shafts, declines, and drifts
	5. Underground mine layout
	6. Ore access and transportation
	7. Safety considerations underground
	Week 8 — Underground Mining II
	1. Guideline Contents:
	2. Room and pillar mining
	3. Longwall mining
	4. Cut and fill mining
	5. Sublevel stoping
	6. Block caving basics
	7. Comparison of underground methods
	Week 9 — Rock Mechanics Fundamentals
	1. Guideline Contents:
	2. Introduction to rock mechanics
	3. Stress and strain concepts
	4. Rock properties and behavior
	5. Rock strength and failure
	6. In-situ stresses
	7. Importance of rock mechanics in mining
	Week 10 — Ground Control & Stability
	1. Guideline Contents:
	2. Slope stability principles
	3. Types of slope failures
	4. Underground ground support systems
	5. Rock bolts and shotcrete
	6. Factor of safety concept
	7. Monitoring and stability assessment
	Week 11 — Mine Ventilation
	1. Guideline Contents:
	2. Purpose of mine ventilation
	3. Airflow principles
	4. Ventilation systems and circuits
	5. Mine gases and hazards
	6. Dust control methods
	7. Ventilation safety measures
	Week 12 — Mineral Processing Basics
	1. Guideline Contents:
	2. Introduction to mineral processing

	3. Crushing and grinding operations 4. Screening and classification 5. Gravity separation 6. Flotation fundamentals 7. Tailings management basics Week 13 — Mine Safety & Risk Management 1. Guideline Contents: 2. Mining hazards and risks 3. Safety regulations and standards 4. Risk assessment methods 5. Accident prevention 6. Emergency response systems 7. Safety culture in mining Week 14 — Environmental & Sustainable Mining 1. Guideline Contents: 2. Environmental impacts of mining 3. Water and air pollution 4. Waste management in mining 5. Mine reclamation methods 6. Sustainable mining practices 7. Future trends in green mining		
Learning and Teaching Strategies استراتيجيات التعلم والتعليم			
Strategies	1. Interactive lectures and classroom discussions to explain fundamental mining engineering concepts. 2. Use of diagrams, case studies, and engineering examples to enhance conceptual understanding. 3. Student report preparation on selected mining engineering topics to develop research and analytical skills. 4. Homework assignments and problem-solving exercises to reinforce theoretical knowledge. 5. Continuous assessment through quizzes and monthly examinations to evaluate students’ understanding and progress.		
Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	4
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	10% (10)	5 and 10	LO #1, #2 #3 #4
	Assignments	2	10% (10)	2 and 12	LO #1, #2 #3 #4
	Projects / Tutorial	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)		

Theoretical - Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Mining Engineering
Week 2	Mineral Resources & Economic Geology
Week 3	Mine Lifecycle
Week 4	Mining Methods Overview
Week 5	Surface Mining I (Open Pit)
Week 6	Surface Mining II (Equipment)
Week 7	Underground Mining I (Access & Development)
Week 8	Mid-Term Exam
Week 9	Underground Mining II (Methods)
Week 10	Rock Mechanics (Fundamentals)
Week 11	Ground Control & Stability
Week 12	Mine Ventilation
Week 13	Mineral Processing Basics
Week 14	Mine Safety & Risk Management
Week 15	Environmental & Sustainable Mining
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	- <i>Introductory Mining Engineering</i>, (Hartman, H.L.) - <i>SME Mining Engineering Handbook</i> (Darling, P.) - <i>Mineral Processing Technology</i> (Wills, B. A.)	No
Recommended Texts		No
Websites	https://www.sundersurveying.com/list-of-surveying-instruments-and-their-uses/ https://civiconcepts.com/blog/surveying-instruments https://theconstructor.org/surveying/types-of-leveling-methods/14679/	

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 (فيد 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	Mathematics II		Module Delivery	
Module Type	B		☒ Theory ☒ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar	
Module Code	DME123			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	UGI	Semester of Delivery		2
Administering Department	Mining Engineering	College	Petroleum and Mining Engineering	
Module Leader	Abdullah Hussein Ibrahim		e-mail	abdallh.hussen@uomosul.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph. D.	
Module Tutor	None		e-mail	
Peer Reviewer Name	Eman Kassim Yahya	e-mail	eman.q@uomosul.edu.iq	
Scientific Committee Approval Date	15/10/2025	Version Number	1	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	DME113, Applied Mathematics	Semester	First
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 aims to teach students the basics of differentiation and integration for different types of functions, as well as to study different types of differentiation and higher degrees of multiple differentiation and integration, as well as applications of differentiation and integration.
Module learning Outcomes مخرجات التعلم للمادة الدراسية	1- Increase the students skills to deal with the mathematical engineering questions. 2- Increase the level of students in thinking. 3- Prepare the students to understand more developed materials. 4- Determine the area under curve using integration in which the students can use this method to determine the reservoir volume. 5- Perform a connection between the mathematical equations with the petroleum engineering major. 6- Use the optimum approaches to find the solution of mathematical questions.
Indicative Contents المحتويات الإرشادية	Indicative contents: Module 1: An Introduction of Mathematics. Module 2: Domain and Range of Functions. Module 3: Drawing the Trigonometric functions. Module 4: Limits (Continuous and Discontinuous). Module 5: Transformation functions including Period, Horizontal and Vertical shifts, and Amplitude. Module 6: Differentiation and derivative methods. Module 7: Infinite and Finite Integrals. Module 8: Integration Methods. Module 9: An Introduction to Polar Coordinates.

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, homework's, discussion in class, and help session. This will be achieved through classes and interactive tutorials.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
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	4	10% (10)	3,5,11,13	LO #3, #5 and #11, #13
	Assignments	4	10% (10)	3,6,10,13	LO #3, #6 and #10, #13
	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	Module 1: Differentiation
Week 2,3	Module 2: Differentiation Rules
Week 3	Module 3: Higher derivative
Week 4	Module 4: derivative Trigonometric function
Week 5	Module 5: derivative of the inverse Trigonometric function
Week 6	Module 6: chain Rule
Week 7	Module 7: Parametric equations
Week 8	Module 8: L-Hopital Rule
Week 9	Module 9: Integration
Week 10	Module 10: Indefinite integrals
Week 11	Module 11: Definite integrals
Week 12	Module 12: integral of Rational function
Week 13	Module 13: integration factors
Week 14	Module 14: Integration by partes
Week 15	Module 15: Application of Definite integrals
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Curriculum and Textbook	Yes
Recommended Texts	Calculus I	No
Websites	None	

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	Engineering Chemistry		Module Delivery
Module Type	B		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	DME124		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGI	Semester of Delivery	
Administering Department	Mining Engineering	College	Petroleum and Mining Engineering
Module Leader	Islam Kamal Saeed Al-Tayi	e-mail	islam.kamal158@uomosul.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D.
Module Tutor	non	e-mail	
Peer Reviewer Name	Eman Kassim Yahya	e-mail	eman.q@uomosul.edu.iq
Scientific Committee Approval Date	15/10/2025	Version Number	1

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	To impart the knowledge of applied aspects of chemistry and utilizing the same for the technological advancement in various discipline of engineering.
Module learning Outcomes مخرجات التعلم للمادة الدراسية	On successful completion of the course, the students will be able to, 1. Explain the basic concept of batteries & fuel cells and their applications. 2. Apply the knowledge in corrosion science to control corrosion problems. 3. Identify various methods to enhance the quantity & quality of gasoline. 4. Apply the knowledge of different methods for water analysis and purification. 5. Explain the processing of high polymers & their applications.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>MODULE-1 : Battery Technology</u> Introduction - Galvanic cell, electrode potential, EMF of the cell and cell representation. Batteries and their importance, Classification of batteries- primary, secondary and reserve batteries with examples. Battery characteristics - voltage, capacity, energy density, power density, energy efficiency, cycle life and shelf life. Basic requirements for commercial batteries. Construction, working and applications of: Zn-Ag₂O, Ni-Cd, Zn-air and Lithium ion battery. Fuel Cells- Differences between battery and a fuel cell, Classification of fuel cells - based on type of fuel, electrolyte and temperature. Construction, working and applications of solid oxide fuel cell. SLE: Supercapacitors: Definition, types and characteristics. [6 hrs] <u>MODULE-2: Corrosion and its Control</u> Introduction, Electrochemical theory of corrosion with respect to iron. Factors influencing the corrosion rate: physical state of the metal, nature of the metal, area effect, over voltage, pH, temperature and nature of the corrosion product. Types of corrosion: galvanic series; (i) Differential aeration corrosion- oxygen concentration cell, (ii) Stress corrosion- explanation-caustic embrittlement. Corrosion control by: i) Using inhibitors, ii) Cathodic protection- sacrificial anode and impressed current methods iii) Protective coatings-metal coatings- galvanizing and tinning. SLE: Galvanic corrosion, Water line corrosion and seasonal cracking. [15 hrs] <u>MODULE-3: Chemical fuels</u> Introduction, classification with examples, calorific value-classification (HCV & LCV), determination of calorific value of solid and liquid fuels using Bomb calorimeter-numerical problems. Petroleum cracking -fluidized bed catalytic cracking. Reformation of petrol-explanation with reactions, Knocking in IC engine, its ill effects and prevention of knocking. Anti-knocking agent: Leaded and unleaded petrol. Power alcohol and its advantages. Synthetic petrol - Bergius process. Solar energy- Photo voltaic cells- definition, working and importance of PV cells. Production of solar grade silicon by chemical vapor deposition. SLE: Octane number, cetane number. Purification of silicon by zone refining technique. [15]

	hrs] MODULE-4: Water technology Introduction, water analysis: i. Hardness-determination by EDTA method-numerical problems, ii. Alkalinity-determination by double indicator method-numerical problems, iii. Determination of dissolved oxygen by Winkler's method and iv. Determination of chemical oxygen demand - numerical problems. Boiler scales-formation and ill effects, prevention of scales by external method (hot lime-soda process). Desalination by electrodialysis. SLE: Determination of chloride by Mohr's method. Prevention of boiler scales by internal methods: Calgon and Phosphate conditioning. [20 hrs.] MODULE-5: High polymers for engineering applications Introduction, Polymerization techniques - bulk, solution, suspension and emulsion polymerization. Glass transition temperature (T_g)-meaning - factors affecting T_g (crystallinity, effect of side groups, molecular weight & plasticizers) and significance. Preparation, properties and applications of Kevlar, Polyurethane, and Epoxy resin; Determination of molecular weight of polymers by number average and weight average method-numerical problems. Conducting polymers - mechanism of conduction in polyacetylene and applications. SLE: Classification of polymers based on occurrence, thermal behavior, type of polymerization and chemical structure. [20 hrs.] (Note: SLE – Self Learning Exercise)
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	On successful completion of this course, the students will be able to: 1- Understand the concepts of electrochemistry and electrochemical phenomenon involved in the energy storage and energy conversion devices. 2- Able to know the mechanism of corrosion and its control and application of electrochemical concepts for surface modification techniques. 3- Know the importance of petroleum products as conventional sources of energy and the importance of polymers as an engineering material, their synthesis and application in automobile, electronic and aerospace applications. 4- Know the importance of analysis of water and waste .

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4
Unstructured SWL (h/sem)	62	Unstructured SWL (h/w)	3

الحمل الدراسي غير المنتظم للطالب خلال الفصل		الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #3, #4
	Assignments	1	10% (10)	5 and 10	LO #1, #2 and #4, #5
	Projects / Lab.	1	10% (10)	Continuous	All
	Report				
Summative assessment	Midterm Exam	2hr	20% (20)	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	Battery Technology: Introduction - Galvanic cell, electrode potential, EMF of the cell and cell representation. Batteries and their importance
Week 2	Classification of batteries- primary, secondary and reserve batteries with examples. Battery characteristics - voltage, capacity, energy density, power density, energy efficiency, cycle life and shelf life. Basic requirements for commercial batteries. Construction, working and applications of: Zn-Ag ₂ O, Ni-Cd, Zn-air and Lithium ion battery.
Week 3	Fuel Cells- Differences between battery and a fuel cell, Classification of fuel cells -based on type of fuel, electrolyte and temperature. Construction, working and applications of solid oxide fuel cell.
Week 4	Corrosion and its Control: Introduction, Electrochemical theory of corrosion with respect to iron. Factors influencing the corrosion rate: physical state of the metal, nature of the metal, area effect, over voltage, pH, temperature and nature of the corrosion product.
Week 5	Types of corrosion: galvanic series; (i) Differential aeration corrosion- oxygen concentration cell, (ii) Stress corrosion- explanation-caustic embrittlement.
Week 6	Corrosion control by: i) Using inhibitors, ii) Cathodic protection- sacrificial anode and impressed current methods iii) Protective coatings-metal coatings- galvanizing and tinning.
Week 7	Chemical fuels: Introduction, classification with examples, calorific value-classification (HCV & LCV), determination of calorific value of solid and liquid fuels using Bomb calorimeter-numerical problems.
Week 8	Petroleum cracking -fluidized bed catalytic cracking. Reformation of petrol-explanation with reactions, Knocking in IC engine, its ill effects and prevention of knocking.

Week 9	Anti-knocking agent: Leaded and unleaded petrol. Power alcohol and its advantages. Synthetic petrol - Bergius process. Solar energy- Photo voltaic cells- definition, working and importance of PV cells. Production of solar grade silicon by chemical vapor deposition.
Week 10	Water technology: Introduction, water analysis: i. Hardness-determination by EDTA method-numerical problems, ii. Alkalinity-determination by double indicator method-numerical problems, iii. Determination of dissolved oxygen by Winkler's method and iv.
Week 11	Determination of chemical oxygen demand - numerical problems. Boiler scales-formation and ill effects, prevention of scales by external method (hot lime-soda process). Desalination by electrodialysis.
Week 12	High polymers for engineering applications: Introduction, Polymerization techniques - bulk, solution, suspension and emulsion polymerization.
Week 13	Glass transition temperature (T _g)-meaning - factors affecting T _g (crystallinity, effect of side groups, molecular weight & plasticizers) and significance.
Week 14	Preparation, properties and applications of Kevlar, Polyurethane, and Epoxy resin; Determination of molecular weight of polymers by number average and weight average method-numerical problems.
Week 15	Conducting polymers - mechanism of conduction in polyacetylene and applications.
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المناهج الأسبوعي للمختبر

	Material Covered
Week 1	General information, Safety in the laboratory, Common laboratory equipment.
Week 2	Lab 1: Titrimetry : Estimation of ferrous iron by dichrometry.
Week 3	Lab 2: .Estimation of hardness of water by EDTA method.
Week 4	Lab 3: Mineral analysis : Determination of percentage of copper in brass.
Week 5	Lab 4: Estimation of manganese dioxide in pyrolusite.
Week 6	Lab 5: Instrumental Methods : Colorimetry: Determination of ferrous iron in cement by colorimetric method.
Week 7	Lab 6: : Estimation of copper by colorimetric method.
Week 8	Lab 7: Conductometry : Conductometric titration of strong acid vs strong base.
Week 9	Lab 8: Conductometric titration of mixture of acids vs strong base.
Week 10	Lab 9: Potentiometry : Titration of strong acid vs strong base by potentiometry.
Week 11	Lab 10: Titration of weak acid vs strong base by potentiometry.
Week 12	Lab 11: Physical properties : Determination of viscosity of sample oil by redwood / oswald's viscometer.
Week 13	Lab 12: Determination of Surface tension of lubricants.
Week 14	Lab 13: Preparations : Preparation of Thiokol rubber.
Week 15	Lab 14: Adsorption : Adsorption of acetic acid on charcoal.

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1- Text book of Engineering Chemistry by Dr. K. Pushpalatha, published by Wiley publications 2 nd edition. 2- Text book of Engineering Chemistry by S.S. Dara, published by Chand and Co., 2009. 3- Practical Engineering Chemistry by K. Mukkanti, etal, B.S. Publications, Hyderabad.	No
Recommended Texts	1- Principles of Physical Chemistry by B. R. Puri, L. R. Sharma and M. S. Pathania, S. Nagin Chand and Co. 2- Text book of Physical Chemistry by Soni and Dharmatha, S. Chand & Sons. 3- Text book of Polymers science by Gowarikar and Vishwanathan. 4- Corrosion Engineering by M. G. Fontana, Mc Graw Hill Publications.	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	Computer I		Module Delivery
Module Type	B		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	UOM1031		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGI	Semester of Delivery	
Administering Department	Mining Engineering	College	Petroleum & Mining Engineering
Module Leader	Anas mohamed Younis	e-mail	anas.alfarha@uomosul.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.Sc.
Module Tutor		e-mail	
Peer Reviewer Name	Eman Kassim Yahya	e-mail	eman.g@uomosul.edu.iq
Scientific Committee Approval Date	15/09/2025	Version Number	1

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. Teaching the student to recognize the basic rules for dealing with and managing the computer to help him achieve Projects, print matters, prepare statistics and graphs, create presentations, design engineering graphics, and more. 2. The emergence of the Internet as a means of communication available to all has become very necessary for the student to learn to use the computer, due to the role of the Internet in many fields, including education, scientific research, trade and marketing via the Internet, correspondence, web pages, and electronic speaking. 3. The student learns the methods and skills of scientific research
	A- Cognitive goals 1. The student's comprehension of the material is the ability to analyze and apply what he learned practically on the computer 2. That the evaluation is done by presenting the material to the students in the laboratory and then applying what they learned from them 3. Software knowledge 4. Knowledge of programs creating presentations 5. Knowledge of applied software 6. Knowledge of the Internet 7. Turn on the computer 8. Learn the skill of editing, word processing and typing using Microsoft Word 9. Learn the skill of making and creating tables, curves and statistics in Microsoft Excel 10. Learn the skill of making presentations with Microsoft PowerPoint 11. Using the Internet and learning the skill of scientific research methods 12. Knowledge of applied programs
Indicative Contents المحتويات الإرشادية	1- Run the program word and its window elements, write and modify texts, apply text and paragraph formatting tools, apply copy and move commands within the document, apply commands to adjust the distance between lines and paragraphs, and add bullets and numbers with appropriate choices. Application of file handling commands (new, open, save, close). Adding header and footer to document attributes in the appropriate format. Inserting page numbers with setting numbering options. Inserting a different header and footer for document pages. Adjusting the distance between page borders, header and footer. Inserting symbols that are not on the keyboard. Add indentation to paragraphs. [10] 2- Add borders around a paragraph or page in different formats, adjust page settings (size, margins, and orientation), use the Print box to preview pages, adjust print options, use search and replace commands for texts in the document, insert a new table and fill it with data, adjust the width of table columns, row height, add columns and rows to the table after creating delete rows And its columns from the table and differentiate between the command to delete a table and the command to delete a

	table and adjust the properties of the table and apply commands to format texts inside the table and add borders to the table in the appropriate way and apply merge and divide cells and divide the table and design an integrated table using the commands of the Word program and insert images and shapes in the document and apply commands dealing with images and shapes and adjust Selections and fills for appropriate shapes, add effects to images and shapes, and apply rotation, alignment, and distribution tasks to shapes and images [14] 3- The basics of using the Excel program, summarizing the concepts and terms related to the Excel program, distinguishing the elements of the Excel program window and using each of them, applying data entry skills, moving within the worksheet, applying the skills of selecting cells in the worksheet, applying control commands in the worksheet appearance options window, applying copy, cutting and pasting commands, and using the fill handle And to fill the cells with data chains and apply the program's tools to format the cells and create simple equation formulas and add columns and rows in the worksheet and delete columns and rows from the worksheet and adjust the height of the rows and the width of the columns in an appropriate way and apply the commands to add, modify and delete comments and apply the command to delete the formatting of cells and apply commands to deal with worksheets and create Create a new blank file or from a template and move between open files [10] 4- Advanced skills using functions to perform mathematical operations, apply the skills of using functions in short ways, copy the formula value and not the formula itself, write formulas in a way that takes into account the priority of executing mathematical operations, apply commands to freeze rows and columns of headings, apply commands to format numbers, currency, and dates, apply commands to arrange data, ascending or descending, and distinguish the most important error codes that appear in the worksheet and using the simple F function to test data conditions and charts and apply commands to deal with files (save, open and close) and create a chart of the appropriate type and apply commands to format and adjust chart shapes and the trainee uses the nested F function to test more than one possibility and adjust page settings and choose to print data [10] 5- The basics of using PowerPoint, distinguishing the elements of the PowerPoint program window, creating a new presentation from a template, using different methods for displaying slides, using commands (delete, insert, arrange, and duplicate) a slide, adding shapes to the slide with appropriate formatting, adding images to the slides, applying appropriate effects, applying commands for deleting and inserting table rows and columns, and applying commands Merge and split cells, apply text formatting commands in the table, apply commands to add and format cell borders, use the master slide and its slide layouts, set handout pages to print several slides on a sheet, adjust notes page settings, adjust slides, handouts, and notes pages, add transitions between slides, and add animation effects for elements on The slide adds custom motion paths to the element, adjusts the motion effect settings for the element, designs an integrated presentation using PowerPoint tools, and designs a question slide to test [10]
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	6- Using the Internet to learn scientific research methods, scientific websites, the mechanism of using scientific platforms in writing reports, arranging sources, and how to search in scientific libraries [9].
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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	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	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				
Summative assessment	Midterm Exam	2hr	20% (20)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المناهج الاسبوعي النظري

	Material Covered
Week 1	Word software environment ,Basics of using Word
Week 2	Organizing, formatting and page settings
Week 3	Create and coordinate tables and insert pictures
Week 4	Formatting tables and inserting pictures
Week 5	Complement the inclusion of graphics and spell checking
Week 6	Excel environment ,Basics of using Excel
Week 7	Mid-term Exam + Organizing worksheets and using formulas
Week 8	Excel functions
Week 9	Charts in Excel
Week 10	PowerPoint environment ,Basics of using PowerPoint
Week 11	Draw shapes and insert commands, slides, pictures, and videos
Week 12	Transition effects and motion
Week 13	Research methodology I
Week 14	Research methodology II
Week 15	Research methodology III
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المناهج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1: Computer application basics of using the Word program
Week 2	Lab 2: Computer application for organization, coordination and page settings
Week 3	Lab 3: Computer application for Create , coordinate tables and insert pictures
Week 4	Lab 4: Formatting tables and inserting pictures
Week 5	Lab 5: Complement the inclusion of graphics and spell checking
Week 6	Lab 6: Computer application basics of using the excel program
Week 7	Lab 7: Computer application for organizing worksheets and using formulas
Week 8	Lab 8: Computer application for Excel functions
Week 9	Lab 9: Computer application for Excel charts
Week 10	Lab 10: Computer application basics of using PowerPoint program
Week 11	Lab 11: Computer application draw shapes and insert commands, slides, pictures, and videos

Week 12	Lab 12: Computer application of transition effects and motion
Week 13	Lab 13: Computer application for research methodology
Week 14	Lab 14: Computer application for research methodology
Week 15	Lab 15: Computer application for research methodology

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1- Bernard V. Liengme /AGuide to Microsoft excel 2013 for scientists and engineers 2- Ranjit Kumar/ Research methodology a step-by-step guide for beginners, 3 rd edition 2011	NO
Recommended Texts	New Perspectives Microsoft® Office 365 & Office 2019 Introductory, Patrick Carey, Katherine Pinard, Ann Shaffer, Mark Shellman	No
Websites	https://www.microsoft.com/ar-iq/ https://scholar.google.com/schhp?hl=ar https://www.researchgate.net/ https://orcid.org/ https://libgen.is/	

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 (فيد 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	Arabic Language I		Module Delivery	
Module Type	Basic		☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	UOM1011			
ECTS Credits	2			
SWL (hr/sem)	50			
Module Level	UGI	Semester of Delivery		2
Administering Department	Mining Engineering	College	Petroleum & Mining Engineering	
Module Leader	Shimaa Faidel Jassim		e-mail	Shimaafaidel@uomosul.edu.iq
Module Leader's Acad. Title	Asst. Lecturer	Module Leader's Qualification	MSc.	
Module Tutor			e-mail	
Peer Reviewer Name	Eman Kassim Yahya	e-mail	eman.q@uomosul.edu.iq	
Scientific Committee Approval Date	15/10/2025	Version Number	1	

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 aim of this semester is to enable students to read correctly and acquire the ability to use language correctly in communication with others, such as speed, quality of delivery, and eloquence. It also aims to teach students to listen well, develop their literary taste, and accustom them to correct, clear expressions
Module learning Outcomes	CLO1: Introducing the student to the necessity of practicing the rules of writing and speaking in classical Arabic . CLO2:

مخرجات التعلم للمادة الدراسية	Introducing the student to the levels of the Arabic language system CLO3: Deepening the student's connection with the Arab and Islamic heritage. CLO4: Promote scientific research in the field of Arabic language and its sciences to prepare studies and research . CLO5: Showing the beauty of the Arabic language, the breadth of its meanings and its constructional styles. CLO6: Enabling the student to overcome and correct linguistic errors . CLO7: Developing the student's literary taste to understand the aesthetic aspects of speech style, images and meanings . CLO8: Introducing the most prominent poets of the Abbasid era		
Indicative Contents المحتويات الإرشادية	☐ أهمية اللغة العربية ونشأة علوم اللغة العربية ☐ الأفعال ☐ المبتدأ والخبر ☐ النواسخ : كان واخواتها ☐ ان واخواتها ☐ علامات الرقيم ☐ أخطاء لغوية شائعة ☐ خصائص الشعر ☐ المنصوبات ☐ المفعول به ☐ المفعول لأجله ☐ المفعول المطلق ☐ قواعد العدد ☐ حية الشاعر السياب ومع زيات شعره ☐ نص شعري للسيباب		
Learning and Teaching Strategies استراتيجيات التعلم والتعليم			
Strategies	The primary goal of Arabic language lessons is to eliminate the difficulty and rigidity that may accompany some of the topics covered in these lessons, in addition to conveying the required ideas and information to students in ways that are understandable and appropriate to their individual differences. The most prominent focus of the lectures is Arabic grammar and literature. The study consists of lectures, exams, in-class assignments, discussions, and homework.		
Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	2.2

Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	أهمية اللغة العربية ونشأة علوم اللغة العربية
Week 2	الأفعال
Week 3	المبتدأ والخبر
Week 4	النواسخ : كان واخواتها
Week 5	ان واخواتها
Week 6	علامات الترفيع
Week 7	أخطاء لغوية شائعة
Week 8	خصائص الشعر والنثر
Week 9	المنصوبات
Week 10	المفعول به
Week 11	المفعول لأجله
Week 12	المفعول المطلق
Week 13	قواعد العدد

Week 14	حياة الشاعر السياب ومميزات شعره
Week 15	نص شعري للسياب

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	اللغة العربية لأقسام غير الاختصاص / مجموعة من المؤلفين	YES
Recommended Texts	كتب النحو / كتب الإملاء / المنهاج في القواعد والاعراب	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.				