

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Chemistry		Module Delivery
Module Type	Basic		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	CHEM121		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	UGI	Semester of Delivery	
Administering Department	PE	College	OGE
Module Leader	Rana Abbas Azeez		e-mail Email:Rana.A.Azeez@uotechnology.edu.iq
Module Leader's Acad. Title	Ass. Prof.	Module Leader's Qualification	M.Sc.
Module Tutor	NA		e-mail E-mail
Peer Reviewer Name	Dr. Najem Al-Rubaiey	e-mail	E-mail :100108@uotechnology.edu.iq
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None		Semester
Co-requisites module	None		Semester

## Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p><b>Module Aims</b> أهداف المادة الدراسية</p>	<p>Principles of Chemistry is a course designed to provide a general chemistry background to environmental studies majors. Chemistry is a rapidly growing field and is essential in understanding our natural environment. Having a basic knowledge on the atom and its structure, the way atoms connect to form molecules, the properties of chemical substances and the way they react helps students understand the science in their everyday life and provides an essential background and tool for students. Additionally, it provides knowledge of organic substances and compounds - that is, those that contain carbon in their molecular structure, along with other elements such as hydrogen, nitrogen, oxygen, and sulfur.</p> <p>As well as, it will provides with the principles of green technologies and a deep understanding of sustainability issues that will lead to the reduction or elimination of hazardous substances involved in the design, manufacture and application of chemical products. Also examine the environmental, economic and social benefits arising from the transformation of the chemical industries of the future.</p>
<p><b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية</p>	<p>1-Know the fundamentals of the physical and chemical properties of matter, and explain the theoretical principles and important applications of classical analytical methods.</p> <p>2-Classify and give the nomenclature of organic compounds , and explain in details the qualitative and quantitative aspects of organic compounds</p> <p>3-Students will be able to explain why chemistry is an integral activity for addressing economic, and environmental problems.</p>
<p><b>Indicative Contents</b> المحتويات الإرشادية</p>	<p><b>Indicative content includes the following:</b></p> <p><b>Part I: General Chemistry</b></p> <p>In this part explains that the chemistry is the branch of science that deals with the properties, composition, and structure of elements and compounds, how they can change, and the energy that is released or absorbed when they change</p> <p><b>Part II : Analytical Chemistry</b></p> <p>In this part It is designed to provide a basic overview of analytical chemistry, as a field responsible for characterizing the composition of matter, in qualitative terms (what is there) and Quantitatively (how much is present). Nearly all chemists routinely make qualitative or quantitative measurements.</p> <p><b>Part III. Organic Chemistry</b></p>

	<p>In this part II is designed to provide a fundamental overview of organic chemistry to students interested in pursuing a career in the sciences. It is focusing primarily on the basic principles to understand the structure, properties, composition, and preparation (by Synthesis or by other means) of Carbon-based compounds, Hydrocarbons, and their derivatives. These compounds may contain any number of other elements, including Hydrogen, Nitrogen, Oxygen, the Halogens as well as Phosphorus, Silicon, and Sulfur, and reactivity of organic molecules. Emphasis is on substitution and elimination reactions and chemistry of the alkyl group.</p> <p><b>Part IV sustainable Chemistry</b></p> <p>This part it provides an overview of sustainable chemistry and will equip the students with an understanding of how to assess chemical syntheses and processing routes as well as to design sustainable materials and chemicals.</p>
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<b>Learning and Teaching Strategies</b> استراتيجيات التعلم والتعليم	
<b>Strategies</b>	Teaching and learning strategies can include a range of whole class, group and individual activities to accommodate different abilities, skills, learning rates and styles that allow every student to participate and to achieve some degree of success.

<b>Student Workload (SWL)</b> الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	90	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	6
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	57	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	150		

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

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	<b>What Is Chemistry?</b> Some Basic Definitions Chemistry as a Science
Week 2	<b>Atoms, Molecules, and Ions</b> Atomic Theory Molecules and Chemical Nomenclature Masses of Atoms and Molecules Ions and Ionic Compounds Acids
Week 3	<b>Chemical Reactions and Equations</b>

	<p>The Chemical Equation</p> <p>Types of Chemical Reactions: Single- and Double-Displacement Reactions</p> <p>Ionic Equations: A Closer Look</p> <p>Composition, Decomposition, and Combustion Reactions</p> <p>Neutralization Reactions</p> <p>Oxidation-Reduction Reactions</p>
<b>Week 4</b>	<p><b>Stoichiometry and the Mole</b></p> <p>Stoichiometry</p> <p>The Mole</p> <p>The Mole in Chemical Reactions</p> <p>Mole-Mass and Mass-Mass Calculations</p>
<b>Week 5</b>	<p><b>Analytical Chemistry:</b></p> <p>Fundamental way of expressing the concentration of solution:</p> <p>-Molality, Normality, Molality and Tutorial</p>
<b>Week 6</b>	<p><b>Equilibrium-Constant Expressions</b></p> <p>Weak acids and base</p> <p>Dissociation Constants for Conjugate Acid / Base Pairs</p> <p>Relationship between <math>K_a</math> and <math>K_b</math></p> <p>Hydronium Ion Concentration of Solutions of Weak Acids</p>
<b>Week 7</b>	<p><b>Analytical Methods of Analysis:</b></p> <p>a-Qualitative Analysis b-Quantitative Analysis</p> <p><b>Volumetric Analysis</b></p> <p>(Titrimetric) &amp; Analysis, Acid- Base, Redox, Precipitation, Complex Titration, Methods of Calculation, Titration Curves</p> <p><b>Gravimetric Analysis</b></p> <p>Precipitation Reactions, Direct and Indirect Methods of Analysis, <math>K_{sp}</math>.</p> <p>Instrumental Methods of Analysis.</p>
<b>Week 8</b>	<p><b>Acids and Bases</b></p> <p>Arrhenius Acids and Bases</p> <p>Brønsted-Lowry Acids and Bases</p> <p>Acid-Base Titrations</p> <p>Strong and Weak Acids and Bases and Their Salts</p>

	Auto-ionization of Water.
<b>Week 9</b>	<p><b>Buffer Solutions:</b></p> <p>Calculating the pH of buffer solutions</p> <p>The Henderson-Hasselbalch Equation</p> <p>Properties of Buffer Solutions</p> <p>The Composition of Buffer Solutions as a Function of pH: Alpha Values</p> <p>Preparation of Buffer</p>
<b>Week 10</b>	<p><b>Organic Chemistry:</b></p> <p>Classification of organic compounds:</p> <ul style="list-style-type: none"> <li>-Aliphatic compounds (Alkane, Alkene, Alkyne) and cycloalkane</li> <li>-Aromatic compounds</li> <li>-Functional group: Alkyl halide, Alcohols, Ether, Aldehydes, Ketones, Esters, Carboxylic acids, Thiophene, Disulphide</li> </ul>
<b>Week 11</b>	<p><b>Aromatic Compounds:</b></p> <p>Structural formula of benzene ring, nomenclature, preparation, properties, chemical reaction, nitration, halogenation</p> <p>-Chemical reaction of Toluene, Xylene, Ethylbenzene, Styrene, Aniline.</p>
<b>Week 12</b>	<p><b>Hydrocarbons from Petroleum:</b></p> <p>Fossil Fuels, Refining, Alkanes from Natural Gas, Crude Oil Refining, Fractional Distillation, Cracking, Octane Number</p>
<b>Week 13</b>	<p><b>Green Chemistry</b></p> <p>Introduction</p> <p>Pollution Prevention</p> <p>Sustainability/Real world Green Chemistry</p> <p>Renewable energy</p>
<b>Week 14</b>	<b>Preparatory week before the final Exam</b>
<b>Week 15</b>	<b>Final exam</b>

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Introduction of Analytical Chemistry
Week 2	Preparation the standard solutions : Primary standard solution and secondary standard solution
Week 3	Volumetric Analysis: Titration of hydrochloric acid with sodium carbonate
Week 4	Titration of Mixture (base strong and base weak) with acid strong
Week 5	Acidity of Vinegar, Quiz
Week 6	Introduction of Organic chemistry
Week 7	Measurements the physical properties of organic compounds: Boiling point
Week 8	Measurements the physical properties of organic compounds: Melting point
Week 9	Simple Distillation, Quiz
Week 10	Preparation of organic compounds ( ester)
Week 11	Identification of functional groups :Saturated and Unsaturated Aliphatic Compound.
Week 12	Identification of functional groups :Aldehyde and ketone
Week 13	Final Examination Lab

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
<b>Required Texts</b>	Text book : R.T. Morrison, R.N. Boyd and S.K. Bhattacharjee; "Organic Chemistry" 7th edition, Prentice Hall of India, copy right 2011.	Yes
<b>Recommended</b>	1) R.T. Morrison and R.N. Boyd; "Organic Chemistry" 6th	Yes

<b>Texts</b>	<p>edition Prentice. Hall . Inc, New Jersey (1992).</p> <p>2) K.S. Tewari, S.N. Mehrotra and N.K., Vishnoi; A Text book of Organic Chemistry, Vikas, Pub . Ltd, New Delhi (1979).</p> <p>3) Douglas A. Skoog, Donald M. West, F. James Holler and Stanley R. Crouch, “Fundamental of Analytical Chemistry”, ninth editions, Brooks/cole, 2014 .</p> <p>4)ary D. Christian, Purnendu K. (Sandy) Dasgupta and Kevin A. Schug, “Analytical Chemistry”, Seventh edition, John Wiley &amp; Sons, Inc,2014.</p>	
<b>Websites</b>		

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



# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	<b>General Geology II</b>		Module Delivery	
Module Type	<b>Basic</b>		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar	
Module Code	<b>GEGE122</b>			
ECTS Credits	<b>4</b>			
SWL (hr/sem)	<b>100</b>			
Module Level	UGI	Semester of Delivery		2
Administering Department	PE	College	OGE	
Module Leader	Dr. Mayssaa Ali Al-Bidry		e-mail	mayssaa.a.abdwon @uotechnology.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	PHD	
Module Tutor	NA		e-mail	E-mail
Peer Reviewer Name	Dr. Fadhil S. Kadhim	e-mail	150010@uotechnology.edu.iq	
Scientific Committee Approval Date	01/06/2023	Version Number	1.0	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	GEGE117	Semester	1
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims	1-Facilitate a better understanding of Earth rock formation, rocks types, process and factors affect on Earth crust.

أهداف المادة الدراسية	2-Provide students with the tools to interpret the minerals and rock types and fossil record. 3-Laboratory exercises and field trips will highlight and enhance the concepts learned in the classroom.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1-Identify various types of minerals and rocks and understand the geologic processes of their formation, structural deformation and the process of weathering and erosion. 2-Describe the mechanisms that produced the earth's major continents, mountain ranges, ocean basins, plate tectonics and deformation of earth crust. 3-Discuss geologic history in the context of understanding Earth systems and how they may change in the future.
Indicative Contents المحتويات الإرشادية	The most important skills required by the student are: 1- Understanding the geological processes that formed the Earth and its layers and minerals. 2 - The effects leading to the change of rock types as a result of the effects of all types of erosion and weathering. 3- The basic structural influences that changed the shape of the earth's crust and their results in generating various types of folds and faults. 4- Studying the basic factors of deposition situation of sedimentary rocks and knowing their geological ages.

### Learning and Teaching Strategies

#### استراتيجيات التعلم والتعليم

Strategies	The possibility of identifying the various types of minerals and rocks through which the student can evaluate the contents of the earth's crust and how oil accumulations are formed inside the earth and the mechanisms of their extraction through knowledge of the hardness and strength of these rocks, their depth and sedimentary age, geological structures sub-surface and the quality of oil reservoirs.
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### Student Workload (SWL)

#### الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	60	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	4
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	37	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.5
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	100		

### Module Evaluation

#### تقييم المادة الدراسية

	Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
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<b>Formative assessment</b>	<b>Quizzes</b>	1	10% (10)	1-3	LO #1-3
	<b>Assignments</b>	1	10% (10)	4-6	LO # 1-3
	<b>Projects /</b>	1	10% (10)	7-9	LO # 1-3
	<b>Report</b>	1	10% (10)	10-12	LO # 1-3
<b>Summative assessment</b>	<b>Midterm Exam</b>	1 hr	10% (10)	1-7	LO # 1-3
	<b>Final Exam</b>	2hr	50% (50)	16	LO # 1-3
<b>Total assessment</b>			100% (100 Marks)		

<b>Delivery Plan (Weekly Syllabus)</b> المنهاج الاسبوعي النظري	
	<b>Material Covered</b>
<b>Week 1</b>	Introduction to Geology , types of geological sciences, Why Study Geology? Rocks and Fossils are important tools for geologists that tell a story of what Earth like in the past.
<b>Week 2</b>	Earth generation and Earth's Internal Structure , Crust, Mantel and Core. Define their physical and chemical properties , Why Does Oceanic Crust Form Ocean Basins and Continental Crust Form the Continents?
<b>Week 3</b>	Matter and Minerals, what are the minerals and how can they be formed? Minerals are the building blocks of rocks Earth's crust is made of rocks. Mineral Composition. Chemical bonding forming a compound as mineral. Rock-Forming Minerals the Silicates and non-Silicates.
<b>Week 4</b>	Silicate Mineral Structures, Environment of Formation, Bowen's Reaction Series, Physical Properties of Minerals.
<b>Week 5</b>	Types of Rocks . What Can Igneous Minerals/Rocks Tell Us? Origin of Igneous Rocks. How Do Igneous Rocks Form? How Does Magma Originate? Generating Magma from Solid Rock. Components of Magma.
<b>Week 6</b>	Origin of Magma Compositions, Origin of Andesitic Magmas Origin of Granitic Magmas, Classification of Igneous Rocks, Igneous Textures, Rate of Cooling, Mineral Compositions of Igneous Rocks
<b>Week 7</b>	Volcanoes and Other Igneous Activity, Not all Volcanic Eruptions are the Same, Factors Affecting Viscosity, Materials Extruded from Volcanoes, Anatomy of Volcanoes, Types of Volcanoes , Plutonic Igneous Activity, Classification of Plutons.
<b>Week 8</b>	Metamorphic Rocks, What Can Metamorphic Minerals and Rocks Tell Us? Metamorphism, Agents of Metamorphism, Classification of Metamorphic Rocks, How Metamorphism Alters Rocks, Types of Foliation and Foliated Metamorphic Rocks, Metamorphic Environments
<b>Week 9</b>	Sedimentary Rocks, Turning Sediment into Rock, Diagenesis, Types of Sedimentary Rocks, Classification of Sedimentary Rocks, Characteristics of Detrital Sedimentary Rocks,
<b>Week 10</b>	Grain Size , What Does Grain Size Tell Us? Sorting, What Does the Degree of Sorting Tell Us? Chemical and Biochemical Sedimentary Rocks, Inorganic Processes including Evaporation, Hydrothermal, Chemical Activity and Organic Processes of Biochemical Origin.
<b>Week 11</b>	Types of Chemical and Biochemical Sedimentary Rocks. Carbonate Rocks, Characteristics of the Environment of Marine Carbonate Formation. Sedimentary Environments of Deposition, Depositional Environments.
<b>Week 12</b>	Weathering and Erosion, Mechanical & Chemical Weathering, Products of Weathering, Erosion, types of Mechanical Weathering, types of Chemical Weathering, Factors Influencing Rates of Weathering
<b>Week 13</b>	Crustal deformation and Geologic Structures, Deformation, Deformational Stress, How Do Rocks Deform? Crustal Structures, Anatomy of a Fold, Common Types of Folds,

<b>Week 14</b>	Types of Faults, Summary of Fault Types, Dip-Slip Faults and Strike-Slip Faults, Types of Strike-Slip Faults , Fault-Associated Folding
<b>Week 15</b>	Geological time , The Geologic Time Scale, Methods of Dating Rocks, Relative Dating: Principles of Geology, Law of Original Horizontality, Principle of Superposition, Principle of Lateral Continuity and Principles of Unconformities.
<b>Week 16</b>	Preparatory week before the final Exam

### Delivery Plan (Weekly Lab. Syllabus)

#### المنهاج الاسبوعي للمختبر

	Material Covered
<b>Week 1</b>	Introduction and Crystallography.
<b>Week 2</b>	Types of crystal system and their properties.
<b>Week 3</b>	Types of minerals , silicates and non silicate and study their physical properties.
<b>Week 4</b>	Igneous rocks , their types and composition and textures.
<b>Week 5</b>	Metamorphic rocks , their types, textures, and types of metamorphism.
<b>Week 6</b>	Sedimentary rocks , their types and classification, detrital sedimentary rocks.
<b>Week 7</b>	Chemical sedimentary rocks and their types.

### Learning and Teaching Resources

#### مصادر التعلم والتدريس

	Text	Available in the Library?
<b>Required Texts</b>	<p>1- Essentials of Geology (Lutgens and Tarbuck, 10th Edition).</p> <p>2- Sedimentary Basins Evolution, Facies, and Sediment Budget , By Gerhard Einsele , Springer Science &amp; Business Media, Jul 27, 2000 - Science - 792 pages.</p> <p>3- 5- Zumberge's Laboratory Manual for Physical Geology (Robert Rutherford and James Carter, 14th Edition.)</p>	Not sure
<b>Recommended Texts</b>	The Concise Geologic Time Scale , By James G. Ogg, Gabi Ogg , Felix M. Gradstein , Cambridge University Press, Sep 4, 2008 - Science - 177 pages.	Not sure
<b>Websites</b>	The Encyclopedia of Field and General Geology , Charles W. Finkl , Springer Science &	

## 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 Information

## معلومات المادة الدراسية

Module Title	<b>Calculus II</b>		Module Delivery	
Module Type	<b>Basic</b>		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar	
Module Code	<b>CALC123</b>			
ECTS Credits	<b>6</b>			
SWL (hr/sem)	<b>150</b>			
Module Level	UGI	Semester of Delivery		
Administering Department	PE	College	OGE	
Module Leader	Ameen Kareem Salih	e-mail	150101@uotechnology.edu.iq	
Module Leader's Acad. Title	Asst. Lecturer.	Module Leader's Qualification	MSc	
Module Tutor	2	e-mail	E-mail	
Peer Reviewer Name	Name	e-mail	E-mail	
Scientific Committee Approval Date	01/06/2023	Version Number	1.0	

### Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	CALC113	Semester	1
Co-requisites module	None	Semester	

### Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<b>Module Aims</b> أهداف المادة الدراسية	<p>1-The main objective is to understand the process of integration and its benefits in practical life and to enable the student to solve various problems of integration</p> <p>2-Study different matrices and explain the usefulness of matrices in petroleum industry</p> <p>3-Study and draw complex numbers so that the student can understand the purpose of complex numbers</p>
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> <li>1- Teaching the student, the scientific basis and the benefits of integration</li> <li>2- Carry out the integration process using integration methods</li> <li>3- Integration of trigonometric and quadrilateral functions</li> <li>4- Study definite integration and its applications in calculating areas and volumes</li> <li>5- Studying matrices, knowing their properties, mathematical operations related to them, and how to benefit from them in practical life</li> <li>6- Studying Complex Number, knowing their properties, mathematical operations related to them, and how to benefit from them in practical life</li> </ol>
<b>Indicative Contents</b> المحتويات الإرشادية	<p>Indicative content includes the following:</p> <p><b>Part I: fundamentals of integration</b></p> <p>Technique of Integral, Defined integral, Mode of Integral, Integral the Odd and even powers of sine and cosine. (10 hrs)</p> <p><b>Part II: method of integration</b></p> <p>Method of integration: Integration by Part, Integral by trigonometric substitutions, Integral by completing the square, Integral by reducing an improper fraction, Integral by partial fraction</p> <p>Integral by Rational function. (30 hrs)</p> <p><b>Part III: Definite Integral</b></p>

	<p>Application of Definite Integral, Areas and Volume. (5 hrs)</p> <p><b>Part III: Matrices</b></p> <p><b>Determinants and Introduction to Matrices, Determine the inverse of matrices. (10 hrs)</b></p> <p><b>Part IIIII: Complex Number</b></p> <p>Polar Coordinates, Complex Number, Complex Variables, Draw the complex function. (20 hrs)</p>
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### Learning and Teaching Strategies

#### استراتيجيات التعلم والتعليم

<b>Strategies</b>	The major technique for delivering this module will be a lot of homework and solved exercises, as well as attempting to connect mathematical operations to real life for the purpose of enhancing interest and solidifying knowledge.
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### Student Workload (SWL)

#### الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	75	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	5
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
<b>Total SWL (h/sem)</b> 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	10% (10)	4, 11	1,2,3,4 and 5
	Assignments	2	10% (10)	3, 10	1,2,3,4 and 5
	Projects /	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	1,2,3,4,5 and 6
Summative assessment	Midterm Exam	2 hr	10% (10)	8	1,2, and 3
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

### Delivery Plan (Weekly Syllabus)

#### المنهاج الاسبوعي النظري

	Material Covered
Week 1	Technique of Integral, Defined integral, Mode of Integral
Week 2	Method of integration: Integration by Part
Week 3	Integral the Odd and even powers of sine and cosine
Week 4	Integral by trigonometric substitutions
Week 5	Integral by completing the square
Week 6	Integral by reducing an improper fraction
Week 7	Integral by partial fraction
Week 8	Integral by Rational function
Week 9	Application of Definite Integral, Areas and Volume
Week 10	Determinants and Introduction to Matrices
Week 11	Determine the inverse of matrices
Week 12	Polar Coordinates
Week 13	Complex Number



Week 14	Complex Variables
Week 15	Draw the complex function
Week 16	Preparatory week before the final Exam

### Learning and Teaching Resources

#### مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Strang, G. (2017). Calculus. United States: Wellesley-Cambridge Press.	yes
Recommended Texts		
Websites	<a href="https://www.geogebra.org/3d?lang=en">https://www.geogebra.org/3d?lang=en</a> <a href="https://www.wolframalpha.com/">https://www.wolframalpha.com/</a>	

### 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 Practices		Module Delivery
Module Type	Basic		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	ENPR124		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	UGI	Semester of Delivery	
Administering Department	PE	College	OGE
Module Leader	Anwar Nadhom Mohammed Ali	e-mail	10605@uotechnology.edu.iq
Module Leader's Acad. Title	Asst.Pro.	Module Leader's Qualification	PHD
Module Tutor	NA	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<b>Module Aims</b> أهداف المادة الدراسية	<p>Semester includes a display problem of representing the needs of the community using the learning method is based on the problem.</p> <p>The problem, which represents the needs of the community scenario includes a description of the problem is similar to the practical realities and limitations of the data that can be obtained by the engineer to reach a solution based on the research and information collection Presented.</p> <p>The other side includes the use of the computer program (AutoCAD soft.) to draw using the computer to build his skills in the field of engineering drawing and design.</p>
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"><li>1. The student be able choose the mechanism of data collection to solve the engineering problem.</li><li>2. The student be able to determine many of solutions to solve the problem and choose the best.</li><li>3. The student be able to search of references using the web to solve the problem in an engineering method depend on mathematic.</li><li>4. Students be able to draw by using AutoCAD.</li><li>5. Students be able to write the scientific report In an organized and clear manner.</li></ol>
<b>Indicative Contents</b> المحتويات الإرشادية	<p>Indicative Contents will include:</p> <p>Solve problems by using the problems based learning.</p> <p>How to search and reach to the right information.</p> <p>how to take more effective notes.</p> <p>Work as group and how to participate more confidently in group discussion work.</p> <p>Improving accuracy in writing a scientific reports.</p>

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	<p>Using the problems based learning to give the following Subject-specific skills:</p> <ol style="list-style-type: none"> <li>1- Discussion.</li> <li>2- Brain storming by encouraging students to produce a large number of ideas about some issue or problem raised during the lecture.</li> <li>3- Self-learning by teaching the student by his own according to his special abilities and mental and cognitive levels responding to his preferences and interests to achieve development and integration of his capabilities.</li> <li>4- Cooperative learning by team working.</li> <li>5- Competitive learning by creating a competition among peers.</li> </ol>
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## Student Workload (SWL)

### الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	60	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	4
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	37	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.5
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	100		

## Module Evaluation

### تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative</b>	<b>Quizzes</b>	2	10% (10)	6,12	LO # 1, and 2

assessment	Assignments	2	10% (10)	2,8	LO # 1, and 2
	Projects /	1	10% (10)	Continuous	All
	Report	2	10% (10)	4,10	LO # 2, 4 and 7
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

### Delivery Plan (Weekly Syllabus)

#### المنهاج الاسبوعي النظري

	Material Covered
Week 1	Definition the scenario problem in engineering practice, and definition the process of Problem Based Learning Method ( <b>PBL</b> ) in Engineering practice.
Week 2	Describe the drawing and modifying tools bar in AutoCAD.
Week 3	The scenario of problem in ( <b>PBL</b> ). The needs of the society ( <b>The Problem scenario</b> )
Week 4	Discussion the scenario of problem, and determine the start point to solve the problem and how looking for references in the web.
Week 5	Drawing by using rectangular and polar arrays.
Week 6	Describe how write the items of the report of PBL.
Week 7	Advice on writing as a group.
Week 8	Determine the references required to solve problem determine the standard required.
Week 9	Draw different exercises for the layouts with dimensional mode.

<b>Week 10</b>	The scientific presentation items. Explanation of the interface of the power point software.
<b>Week 11</b>	Initial Report of the problem scenario. Discussions Initial Report of the problem scenario.
<b>Week 12</b>	Drawing with dimensions the shape by AutoCAD of the design of the problem scenario.
<b>Week 13</b>	Discussion the initial report of the groups. The first evaluation of student group reports
<b>Week 14</b>	Discussions and evaluating the Final report of groups of students.
<b>Week 15</b>	Discuss and evaluating the final report of the student groups by presenting to the final report using the PowerPoint software.
<b>Week 16</b>	Preparatory week before the final Exam

### Learning and Teaching Resources

#### مصادر التعلم والتدريس

	Text	Available in the Library?
<b>Required Texts</b>	Randy H. Shih , "AutoCAD 2016 Tutorial First Level 2D Fundamentals",  Note: For problem scenario by PBL There is no required text book, however student will have to investigate online and library resources on the design process.	No
<b>Recommended Texts</b>	-	
<b>Websites</b>	<a href="http://www.sdcpublications.com">http://www.sdcpublications.com</a>	

## Grading Scheme

### مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
<b>Success Group</b> <b>(50 - 100)</b>	<b>A</b> - Excellent	امتياز	90 - 100	Outstanding Performance
	<b>B</b> - Very Good	جيد جدا	80 - 89	Above average with some errors
	<b>C</b> - Good	جيد	70 - 79	Sound work with notable errors
	<b>D</b> - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	<b>E</b> - Sufficient	مقبول	50 - 59	Work meets minimum criteria
<b>Fail Group</b> <b>(0 – 49)</b>	<b>FX</b> – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	<b>F</b> – 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 Ethics		Module Delivery
Module Type	Support		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	ENET125		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	UGI	Semester of Delivery	
Administering Department	PE	College	OGE
Module Leader	Wasem Ali	e-mail	E-mail: 150067@uotechnology.edu.iq
Module Leader's Acad. Title	Asst.Lect.	Module Leader's Qualification	MSc
Module Tutor	NA	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	



## Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<b>Module Aims</b> أهداف المادة الدراسية	This course deals with the understanding and importance of integrity and responsible, ethical and scientific behavior towards engineering work and the most important associations concerned with these important topics and their impact on the future of engineering work
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> <li>1- Develop the student's professional history and engineering development</li> <li>2- Develop the student's the importance of professional behavior and a sense of responsibility</li> <li>3- The most important professional associations and codes of ethics</li> </ol>
<b>Indicative Contents</b> المحتويات الإرشادية	<p><b>Indicative content includes the following:</b></p> <p><b>Part I: Introduction</b></p> <ul style="list-style-type: none"> <li>• Know why it is important to study engineering ethics</li> <li>• Understand the distinction between professional and personal ethics</li> <li>• See how ethical problem solving and engineering design are similar.</li> </ul> <p><b>Part II : Professionalism and Codes of Ethics</b></p> <ul style="list-style-type: none"> <li>• Determine whether engineering is a profession</li> <li>• Understand what codes of ethics are, and</li> <li>• Examine some codes of ethics of professional engineering societies.</li> </ul> <p><b>Part III: Understanding Ethical Problems</b></p> <ul style="list-style-type: none"> <li>• Discuss several ethical theories</li> <li>• See how these theories can be applied to engineering situations.</li> </ul> <p><b>Part IV: Ethical Problem Solving Techniques</b></p> <ul style="list-style-type: none"> <li>• Apply ethical problem solving methods to hypothetical and real cases</li> <li>• See how flow charting can be used to solve ethical problems</li> <li>• Learn what bribery is and how to avoid it.</li> </ul> <p><b>Part V: Risk, Safety, and Accidents</b></p>

	<ul style="list-style-type: none"> <li>• Know the definitions of risk and safety</li> <li>• Discover different factors that affect the perception of risk</li> <li>• Study the nature of accidents</li> <li>• Know how to ensure that your designs will be as safe as possible.</li> </ul>
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<b>Learning and Teaching Strategies</b> استراتيجيات التعلم والتعليم	
<b>Strategies</b>	Teaching and learning strategies can include a range of whole class, group and individual activities to accommodate different abilities, skills, learning rates and styles that allow every student to participate and to achieve some degree of success.

<b>Student Workload (SWL)</b> الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	45	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	3
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.5
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	100		

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

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

### Delivery Plan (Weekly Syllabus)

#### المنهاج الاسبوعي النظري

	Material Covered
Week 1	The Profession of Engineering
Week 2	Professionalism and Codes of Ethics
Week 3	Personal VS. Professional Ethics
Week 4	Understanding Ethical Problems
Week 5	Ethical Theories
Week 6	Utilitarianism
Week 7	Types of Issues in Ethical Problem Solving
Week 8	Line Drawing
Week 9	Flow Charts
Week 10	Ethical Problem-Solving Techniques
Week 11	Risk, Safety, and Accidents.
Week 12	The Rights and Responsibilities of Engineers
Week 13	Ethics in Research and Experimentation

<b>Week 14</b>	Global Issues.
<b>Week 15</b>	<b>Preparatory week before the final Exam</b>
<b>Week 16</b>	<b>Preparatory week before the final Exam</b>

<b>Learning and Teaching Resources</b>		
مصادر التعلم والتدريس		
	<b>Text</b>	<b>Available in the Library?</b>
<b>Required Texts</b>	<p>1- Michael E. Gorman, Matthew M. Mehalik, and Patricia H. Werhane, Ethical and Environmental Challenges to Engineering, Prentice Hall, Englewood Cliffs, NJ, 2000.</p> <p>2- Kenneth K. Humphreys, What Every Engineering Should Know About Ethics, Marcel Dekker, Inc., New York, 1999.</p> <p>3- John D. Kemper and Billy R. Sanders, Engineers and Their Profession, 5th ed., Oxford University Press, New York, 2001.</p> <p>4- Edmund G. Seebauer and Robert L. Barry, Fundamentals of Ethics for Scientists and Engineers, Oxford University Press, New York, 2001.</p>	
<b>Recommended Texts</b>	<p>1- Joe Morgenstern, "The Fifty-nine Story Crisis," The New Yorker Magazine, May 29, 1995, p. 45.</p> <p>2- Kenneth R. Foster and John E. Moulder, "Are Mobile Phones Safe?" IEEE Spectrum, August 2000, pp.23–28.</p>	

<b>Websites</b>	<p>5- <a href="http://radburn.rutgers.edu/andrews/projects/ssit/default.htm">http://radburn.rutgers.edu/andrews/projects/ssit/default.htm</a></p> <p>6- <a href="http://www.nspe.org/Ethics/EthicsResources/BER/index.html#2009">http://www.nspe.org/Ethics/EthicsResources/BER/index.html#2009</a></p>
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<b>Grading Scheme</b> مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
<b>Success Group</b> (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
<b>Fail Group</b> (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 Information			
Module Title	<b>Workshops</b>		Module Delivery
Module Type	Support		<input type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input checked="" type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	WORK116		
ECTS Credit/year	8		
SWL/year	200		
Module level	1	Semester of Delivery	
Module Leader	Training and Workshops Center (Hadeel Fawzi Jasim)	College	
Module Leader Academic Title	Prof.	e-mail	<a href="mailto:twc@uotechnology.edu.iq">twc@uotechnology.edu.iq</a> 10532@uotechnology.edu.iq
Module Tutor		Module Leader's Qualification	Ph.D.
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1/6/2023	e-mail	
		Version Number	1

Relation with other Modules			
Prerequisite Module	-	Semester	-
Co-requisite Module	-	Semester	-

Module Aims, Learning Outcomes and Inductive Contents	
Module Aims	<p>1-Preparing applied engineers in the field of engineering sciences who are distinguished by a high level of knowledge and technological creativity, in line with the strict standards adopted globally in quality assurance and academic accreditation of the corresponding engineering programs, while adhering to the ethics of the engineering profession.</p> <p>2. Enable the student to know and understand work systems, risks, and the</p>

	<p>factors surrounding them.</p> <p>3. Enable the student to know and understand theoretical principles in handicrafts and measurements.</p>
<p><b>Module Learning Outcomes</b></p>	<p>1- To familiarize the student with the vocabulary of occupational safety and its importance in the field of work.</p> <p>2- Acquisition of the student’s manual operation skills, for example (Filings and Tinsmith workshops), and mechanical operation skills, for example (Turning).</p> <p>3- Acquisition of the student’s mechanical forming skills, for example (Casting and Blacksmithing).</p> <p>4- The student acquires basic engineering skills such as Welding, Carpentry, and Electrical installations that serve him in the professional field.</p> <p>5- Enabling the student to operate the various machines and devices in mechanical operations and formation.</p> <p>6- Cooperative learning by working collectively.</p>
<p><b>Inductive Contents</b></p>	<ol style="list-style-type: none"> <li>1. Introducing the student to the basics of the art of turning and milling, types of cold working machines, the skill of dealing with them, choosing metals, operational tools, and methods of measurement and standardization</li> <li>2. Introducing the student to the basics of the art of casting, hot forming, metal selection, method of working on casting furnaces and tools, and manufacturing casting molds</li> <li>3. Familiarize students with the basics of cars and the systems they use, as well as maintenance, disassembly, and assembly processes.</li> <li>4. Introducing students to the basics of household and industrial electrical appliances, the skill of using tools, and designing electrical circuits and control panels</li> <li>5. Introducing the student to the basics of the art of plumbing, leveling surfaces, the skill of using tools, manufacturing and installing geometric shapes, and methods of measurement and standardization</li> <li>6. Introducing the student to the basics of the art of blacksmithing, cold and hot forming of metals, the method of hardening them, and the skills of dealing with hand tools, forming machines, and heating furnaces</li> <li>7. Introducing the student to the basics of the art of filing and manual operation of metals with the help of manual, electrical, and mechanical tools, the skills of dealing with them, and the methods of measurement and standardization</li> <li>8. Introducing the student to the basics of the art of welding, the</li> </ol>

	<p>installation and assembly of metals, the types of welding machines, the skills of dealing with them, the types of welding, and the methods of measurement and standardization</p> <p>9. Introducing the student to the basics of the art of carpentry and woodworking with the help of manual, electrical, and mechanical tools, the skills of dealing with them, and methods of measurement and standardization</p>
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Student Workload (SWL)			
Structured SWL (h/sem)	93	Structured SWL (h/w)	6.00
Unstructured SWL (h/sem)	7	Unstructured SWL (h/w)	0.46
Total SWL (h/sem)	100		
Structured SWL (h/year)	186	Structured SWL (h/w)	6.00
Unstructured SWL (h/year)	14	Unstructured SWL (h/w)	0.46
Total SWL (h/year)	200		

Module Evaluation					
		Time/No.	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative Assessment	Quizzes				
	Assignments				All
	Projects / Practice	Every 3 weeks	60%	Continuous	
	Report				
Summative Assessment	Midterm Exam				
	Exam	Every 3 weeks	40%	Continuous	All
Total assessment			100%		



Delivery Plan (Weekly Syllabus)	
	Materials Covered
Week 1	Welding workshop. -Occupational safety and its importance in welding workshops. -Introduction to the basics of welding. -Electric arc exercise. -An exercise for welding straight lines in a circular motion (helical).
Week 2	Welding workshop - An exercise for welding straight lines with a crescent movement and other welding methods -Construction welding exercise.
Week 3	Welding workshop. -Welding two pieces together. -Written exam in practical exercises. -
Week 4	Casting workshop -Occupational safety and its importance in plumbing workshops. -Introduction to the basics of metal casting. -Simple wooden disc exercise. Half workout.
Week 5	Casting workshop Wheel exercise. Pushing arm exercise.
Week 6	Casting workshop. -Complete pulley exercise. -Circular pole exercise. -Written exam in practical exercises.
Week 7	Blacksmith Workshop -Occupational safety and its importance in blacksmithing workshops. -Introduction to the Basics of Blacksmithing. - Barbell adjustment exercise. -Eight-star exercise. - Exercise forming the number eight in English. -Six formation exercises in English.
Week 8	Blacksmith Workshop -An exercise forming the number five in English. - Exercise forming the number nine in English. . -An exercise in forming an iron model in the form of a circle
Week 9	Blacksmith Workshop - S-shape exercise. - Air hammer hot barbell exercise. - Exercise to form a circle on an electric bending machine. - Exercising cold and hot ornament formation. . - A written exam in practical exercises

Week 10	Automotive Workshop -Occupational safety and its importance in car maintenance workshops. -An introduction to cars and their basic parts. -Parts of the engine, how it works, types of engines, and methods of classification.
Week 11	Automotive Workshop - Open the engine and identify the parts -Lubrication system -Cooling system.
Week 12	Automotive Workshop -The fuel system. -The old and new ignition circuits. -Written exam in practical exercises.
Week 13	Turning Workshop -Introduction to lathe machines and identifying their parts -Measuring tools and the use of an oven measuring instrument -Circular column lathing exercise on different diameters.
Week 14	Turning Workshop -Exercise using the pen (semicircular R) brackets. An exercise in making different angles using a pen (square + angle pen 55).
Week 15	Turning Workshop - Making shaft with different diameter exercises using (left and right pen) - Workout (Tube Connection). -Written exam in practical exercises.
Week 16	Fitting workshop Occupational safety and its importance in filing workshops -An introduction to the basics of filing -Pen holder exercise “preparation and preparation”
Week 17	Fitting workshop Pencil holder exercises finishing and assembling.
Week 18	Fitting workshop -The catcher exercise. - Clamping exercise. Written exam in practical exercises.
Week 19	Carpentry workshop -Occupational safety and its importance in carpentry workshops. - An introduction to carpentry, its types, types of wood, tools used, and preparation Preparing the tools used Face modification exercise using the reindeer
Week 20	Carpentry workshop Garden fence work and how to connect its parts, the eight-star exercise
Week 21	Carpentry workshop - Wood smoothing exercise using smoothing paper

	<ul style="list-style-type: none"> <li>- Wood dyeing exercise in three stages</li> <li>Final smoothing and varnishing exercise</li> <li>Written exam in practical exercises</li> </ul>
Week 22	<ul style="list-style-type: none"> <li>The tinsmith workshop</li> <li>Occupational safety and its importance in plumbing workshops</li> <li>An introduction to plumbing, its tools, and plumbing stages</li> <li>Planning and marking exercise on metal plates</li> </ul>
Week 23	<ul style="list-style-type: none"> <li>The tinsmith workshop</li> <li>Geometric shapes</li> <li>Types of individuals and methods of individuals</li> <li>Geometric shape individuals exercise on a metal board</li> </ul>
Week 24	<ul style="list-style-type: none"> <li>The tinsmith workshop</li> <li>Cone members exercise</li> <li>- Exercise of cylinders with an oblique cut</li> <li>Roll forming operations</li> <li>Connection without the use of an intermediary</li> <li>Written exam in practical exercises</li> </ul>
Week 25	<ul style="list-style-type: none"> <li>Electric Workshop</li> <li>Occupational Safety and its importance in electrical workshops</li> <li>An introduction to the basics of electrical installations</li> <li>- Linking a simple circuit consisting of a lamp to the control of a single-way switch.</li> <li>Connect two lamps in series with one-way switch control.</li> <li>Connecting two lamps in parallel with the control of a single road switch.</li> <li>Connect two lights with one-way dual switch control.</li> </ul>
Week 26	<ul style="list-style-type: none"> <li>electric Workshop</li> <li>Connect a fluorescent lamp circuit to a one-way switch control</li> <li>Connecting an electric supply socket circuit to the control of a separate or combined one-way switch</li> <li>Written exam in practical exercises</li> </ul>
Week 27	<ul style="list-style-type: none"> <li>electric Workshop</li> <li>Occupational Safety and its importance in blacksmithing workshops</li> <li>Introduction to the basics of Blacksmithing</li> <li>- Barbell adjustment exercise</li> <li>Eight-star exercise</li> <li>- Exercise forming the number eight in English</li> <li>Exercise forming the number six in English</li> </ul>
Week 28	<ul style="list-style-type: none"> <li>supplementary training curriculum</li> <li>Welding workshop</li> <li>Plumbing workshop</li> <li>Blacksmith's workshop</li> </ul>
Week 29	<ul style="list-style-type: none"> <li>supplementary training curriculum</li> </ul>

	- Automotive workshop - Turning workshop Fitting workshop
Week 30	supplementary training curriculum Carpentry workshop The plumbing workshop electric Workshop

Learning and Teaching Resources		
	Text	Available in the library
Required Texts	Workshop technology and measurements, Ahmed Salem Al-Sabbagh,	yes
Recommended Texts		
Websites		

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	<b>Human Rights and Democracy</b>		Module Delivery	
Module Type	<b>Support</b>		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar	
Module Code	<b>HURD126</b>			
ECTS Credits	<b>2</b>			
SWL (hr/sem)	<b>50</b>			
Module Level	UGI	Semester of Delivery		2
Administering Department	PE	College	OGE	
Module Leader	D.Hadeel fawzi jasim		e-mail	10532@uotechnology.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification		
Module Tutor	NA		e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail	
Scientific Committee Approval Date	01/06/2023	Version Number	1.0	

Relation with other Modules				
العلاقة مع المواد الدراسية الأخرى				
Prerequisite module	None		Semester	
Co-requisites module	None		Semester	

## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p><b>Module Aims</b> أهداف المادة الدراسية</p>	<p>Human rights are the social standards and moral principles that must be available to all human beings. These rights cannot be violated. They are due and inherent to every person simply because they are human. They give all human beings value and dignity, and their basis is justice, freedom and peace. Full knowledge of their contents, borders and ways of guaranteeing them, as the provision for the inclusion of rights in the core of international and national constitutions and covenants does not achieve practical benefit unless effective guarantees are available against the violations they are exposed to over time As for Democracy is the rule of the people by the people and for the people without prejudice to the rights of states, nations and peoples by choosing the mechanisms and forms that suit them. As for its forms and expressions, they are subject to the specificities of nations and peoples and the special circumstances of societies. The essence of democracy is the rule of the people by the people for the benefit of the people, which includes fixed features and elements, the most important of which are: respect for man as an end, not a means, participation in governance by the people, and achieving the satisfaction of the governed.</p>
<p><b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية</p>	<p>An ability to skillfully communicate orally with gathering of people and in writing with various managerial levels</p> <p>An ability to work adequately on teams and to set up objectives , plan activities ,meet due dates and manage risk and uncertainty</p>
<p><b>Indicative Contents</b> المحتويات الإرشادية</p>	<p>Developing the student's analytical and critical skills regarding the reality and future of human rights and democracy</p> <p>Enabling students to understand the importance of education and its role in spreading the culture of human rights and democracy in building a civilized society based on good governance, the most important of which is belief in human rights and education on them and active participation in governance through free and fair elections.</p>

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	<p>A- Spreading the culture of human rights and informing university students about it.</p> <p>B - The student's awareness of his civil, political, economic, social, cultural and environmental rights and the importance of preserving them and not waiving them.</p> <p>c- Raising awareness and educating university students about the importance of democracy, its methods and how to practice it, and thus contribute to establishing the rule of law, which adopts democracy as a basis for building it.</p> <p>d- The need for the student to realize that the real bet on achieving the democratic system in the country is how to root the concept of democracy and its principles and apply them effectively and successfully away from copying and quoting from others.</p>
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## Student Workload (SWL)

### الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	45	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	3
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	2	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	0.13
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	50		

## Module Evaluation

### تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative</b>	<b>Quizzes</b>	2	10% (10)	5, 10	LO #4 and 7

assessment	Assignments	2	10% (10)	2, 12	LO # 4 and 7
	Recording the student's attendance		10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 4 and 7
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 4-7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

### Delivery Plan (Weekly Syllabus)

#### المنهاج الاسبوعي النظري

	Material Covered
Week 1	The human rights means and its properties and sections and The human rights in the old nations
Week 2	Human rights in the monotheistic religions / Islamic, Jewish and Christian religions
Week 3	Sources of human rights at the international and national levels
Week 4	Human rights guarantees at the internal and external levels
Week 5	Guarantees of human rights at the Islamic level
Week 6	The human rights future/The technology developmation and its effect on the rights and the freedoms/ The role of regional human rights organizations in protecting rights
Week 7	The child rights in Islam/The woman rights in Islam /Non-overnmental organizations and their role in the defense of human rights/Intellectual human rights/Fight Human Trafficking
Week 8	The concept of democracy and its roots / Definition of democracy
Week 9	The democracy between global and the privat
Week 10	forms of democracy/The direct democracy/The semi-direct democracy/The Parliamentary democracy



<b>Week 11</b>	The Parliamentary democracy The Parliamentary democracy basics and its faces
<b>Week 12</b>	Parliament and its internal organization
<b>Week 13</b>	The election Concept/constituency/Electoral lists/Election campaign vote
<b>Week 14</b>	election system Direct and indirect selection/ Individual selection and list/Majority system and proportional representation/interests representation system/Optional voting system and secret and compulsory voting
<b>Week 15</b>	<b>Preparatory week before the final Exam</b>
<b>Week 16</b>	<b>Preparatory week before the final Exam</b>

### Learning and Teaching Resources

#### مصادر التعلم والتدريس

	<b>Text</b>	<b>Available in the Library?</b>
<b>Required Texts</b>	The human and the child rights and the democracy (( DR . Maher saleeh alaawi ))  Iraq republic , ministry of the higher education and the scientific research 2009  -Also same references from the internet	
<b>Recommended Texts</b>		
<b>Websites</b>		

## Grading Scheme

### مخطط الدرجات

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