
	Ministry of Higher Education and Scientific Research - Iraq Northern Technical University College of Oil & Gas Techniques Engineering/Kirkuk Department of Fuel and Energy Engineering	
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## MODULE DESCRIPTION FORM

### نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	<b>Organic Chemistry</b>		Module Delivery	
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input checked="" type="checkbox"/> Seminar	
Module Code	<b>FEK102</b>			
ECTS Credits	7			
SWL (hr/sem)	<b>175</b>			
Module Level	1	Semester of Delivery	1	
Administering Department	FEK	College	COGTEK	
Module Leader	Dr. Najwa M. Latif		e-mail	Najwa_alkarimi@ntu.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D.	
Module Tutor	Najwa Alkarimi		e-mail	Najwa_alkarimi@ntu.edu.iq
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	<ol style="list-style-type: none"><li>1. Understanding what is organic chemistry</li><li>2. This course deals with the basic concept of organic chemistry.</li><li>3. This is the basic subject for all organic base compounds.</li><li>4. Understanding different type of carbon base compounds.</li><li>5. The properties and the preparation of organic compounds.</li></ol>
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"><li>1. Summarize what is meant by organic chemistry.</li><li>2. Discuss the various types of organic compounds.</li><li>3. Understanding the properties and the importance of these compounds.</li><li>4. Understanding the preparation of these compounds from other available or alternative compounds.</li><li>5. Discuss the chemical reaction of these compounds.</li></ol>
<b>Indicative Contents</b> المحتويات الإرشادية	<ol style="list-style-type: none"><li>1- It is very important to understand and follow the general safety concept in the lab.</li><li>2- Using gloves mask and safety goggles in the lab.</li><li>3- Cautions while using different chemical compounds during the chemical reactions.</li></ol>

## Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

<b>Strategies</b>	<p>In this model, the main strategy that will be delivered is encouraging the students' participation in the class, developing their lab skill, and refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.</p>
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<b>Student Workload (SWL)</b> الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	127	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	8.4
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	48	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.2
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	175		

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

<b>Delivery Plan (Weekly Syllabus)</b> المنهاج الاسبوعي النظري	
	Material Covered
<b>Week 1</b>	Introduction (what is organic chemistry)
<b>Week 2</b>	Hybridization of carbon
<b>Week 3</b>	Chemical bonding(covalent bond, ionic bond)
<b>Week 4</b>	ALKANES (( PARAFFINES )), IUPAC NAME OF ALKANES, COMMON NAME OF ALKANES
<b>Week 5</b>	PROPERTIES OF ALKANES, ISOMERS
<b>Week 6</b>	PREPARATION OF ALKANES
<b>Week 7</b>	REACTIONS OF ALKANES, COMBUSTION
<b>Week 8</b>	ALKENES, AUPIC NAME OF ALKENES, COMMON NAME OF ALKENE

<b>Week 9</b>	PROPERTIES, PREPARATION OF ALKENE
<b>Week 10</b>	REACTION OF ALKENE
<b>Week 11</b>	SUBSTITUTION REACTION
<b>Week 12</b>	ALKYNES, NOMENCLATURE, PROPERTIES, INDUSTRIAL SOURCE
<b>Week 13</b>	PREPARATION OF ALKYNES, PREPARATION OF ALKYNES
<b>Week 14</b>	TAUTAMERISM, ALICYCLIC HYDROCARBONS, PREPARATION OF CYCLIC COMPOUNDS, REACTIONS
<b>Week 15</b>	Cycloalkane undergo chiefly addition reactions, Aromatic compounds, Reactions of Aromatic compounds
<b>Week 16</b>	<b>Preparatory week before the final Exam</b>

### Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
<b>Week 1</b>	Lab 1: Introduction about the general safety of the lab
<b>Week 2</b>	Lab 2: Melting Point
<b>Week 3</b>	Lab 3: Boiling Point
<b>Week 4</b>	Lab 4: Preparation of Aster
<b>Week 5</b>	Lab 5: Oxidation of Toluene
<b>Week 6</b>	Lab 6: preparation of anhydrous hydrazine
<b>Week 7</b>	Lab 7: Benzene nitrogen

### Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
<b>Required Texts</b>	Fundamentals of Electric Circuits, C.K. Alexander and M.N.O Sadiku, McGraw-Hill Education	Yes
<b>Recommended Texts</b>	DC Electrical Circuit Analysis: A Practical Approach Copyright Year: 2020, dissidents.	No
<b>Websites</b>	<a href="https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering">https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering</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.