	Ministry of Higher Education and Scientific Research - Iraq Al-Mustaqbal University College Of Sciences Department of biology	

MODULE DESCRIPTION
وصف المادة الدراسية

Module Information
معلومات المادة الدراسية

Module Title	**Organic Chemistry**	**Module Delivery**	
Module Type	**Core**	☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	UOMU0601022		
ECTS Credits	**6**		
SWL (hr/sem)	**125**		

Module Level	UGx11 1	**Semester of Delivery**	1
Administering Department	Type Dept. Code	**College**	Type College Code
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	Ph.D.
Module Tutor		**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 الاخرى

Prerequisite module	Che-214	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية

Module Aims أهداف المادة الدراسية	26. Study Some organic chemistry fundamentals, basic concepts and terminology 27. Naming and classification of organic compounds. 28. This course deals with the basic concept of organic chemistry. 29. Basic reactions of alkanes, alkenes and alkynes. 30. To understand preparation methods of alkanes, alkenes and alkynes. 31. Study Cycloalkane, Cycloalkene and Diene compounds. 32. Study mechanism of reactions 33. Introduction to stereochemistry of organic compounds.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	10. identify and draw organic compounds. 11. provide the IUPAC name for some organic compounds. 12. classify organic compounds. 13. explain the properties of alkanes, alkenes and alkynes. 14. discuss the reactions of alkanes, alkenes and alkynes. 15. recognize functional groups that are present in organic compounds 16. discuss the basic reactions of alkanes, alkenes and alkynes. 17. discuss the basic reactions of Cycloalkane, Cycloalkene and Diene compounds. 18. Explain the methods of prepare some organic compounds. 19. explain the mechanisms of the reactions 20. study introduction to stereochemistry.
Indicative Contents المحتويات الارشادية	Indicative content includes the following. **<u>Introduction to organic compounds</u>** **<u>Aliphatic compounds</u>** **Alkanes**, study some physical and chemical properties as well as nomenclature according IUPAC system and Common system. Then, study methods of preparation compounds and study reactions as well as learn mechanism of reactions **Alkenes**, study some physical and chemical properties as well as nomenclature according IUPAC system and Common system. Then, study methods of preparation compounds and study reactions as well as learn mechanism of reactions **Alkynes**: -study some physical and chemical properties as well as nomenclature according

	IUPAC system and Common system. Then, study methods of preparation compounds and study reactions as well as learn mechanism of reactions **[15 hrs]** **Cycloalkanes**, study some physical and chemical properties as well as nomenclature according IUPAC system and Common system. Then, study methods of preparation compounds and study reactions as well as learn mechanism of reactions **Cycloalkenes and Dienes**: - study some physical and chemical properties as well as nomenclature according IUPAC system and Common system. Then, study methods of preparation compounds and study reactions as well as learn mechanism of reactions **Introduction to stereochemistry [15 hrs]**
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	A vital aim of organic chemistry is to be able to synthesis biologically active molecules. With this in mind, you will explore some of the most important organic reactions used in research laboratories. These reactions, along with those introduced in earlier modules, are then studied in the laboratory. Having been introduced to modern spectroscopic methods for determining the structures of organic molecules, these techniques are then used to identify the compounds which have been prepared in the laboratory. Organic compounds are central to the structure of a vast number of important organic molecules and the chemistry of these species will also be studied. This module builds on your knowledge of the basic principles of organic chemistry (including practical) learned in the first year with organic chemistry. In particular, it is assumed that you will have a thorough working knowledge of the basic principles of structural representation, mechanism, reactivity, functional group chemistry and stereochemistry.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ٥١ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	60	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	55	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
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 / 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
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Introduction - organic compounds
Week 2	Aliphatic compounds - Alkane
Week 3	physical and chemical properties and nomenclature
Week 4	preparation methods and reactions
Week 5	Alkene -physical and chemical properties and nomenclature
Week 6	preparation methods and reactions
Week 7	Alkyne -physical and chemical properties and nomenclature

Week 8	preparation methods and reactions
Week 9	Cycloalkane -physical and chemical properties and nomenclature
Week 10	preparation methods and reactions
Week 11	Cycloalkene and Diene-physical and chemical properties and nomenclature
Week 12	preparation methods and reactions
Week 13	Introduction to stereochemistry
Week 14	Stereochemistry of Alkane and Alkene compounds
Week 15	Stereochemistry of cyclic compounds
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	Lab 1: Introduction to common laboratory apparatus
Week 2	Lab 2: Melting point
Week 3	Lab 3: Boiling point
Week 4	Lab 4: Recrystallization
Week 5	Lab 5: Sublimation
Week 6	Lab 6: Extraction
Week 7	Lab 7: Separation methods

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Organic Chemistry by Morrison and Boyd	Yes
Recommended Texts	Textbook of Practical organic chemistry by Vogel's	Yes
Websites	https://www.coursera.org/browse/organic https://youtube.com/@organicchemistry3rdstage397	

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.