جامعة البحرين
University of Bahrain
مركز ضمان الجودة والاعتماد الأكاديمي
Quality Assurance and Accreditation Center

Academic Course Specification Form

استمارة توصيف المقرر الأكاديمي

القسم الخاص بالطالب
Section Concerning the Student

1. Course Code:	CHEMY 222	**1. رمز المقرر:**
2. Course Title	Organic Chemistry I	**2. اسم المقرر:**
3. College:	Science	**3. الكلية:**
4. Department:	Chemistry	**4. القسم:**
5. Academic Program:	Bachelor of Science in Chemistry	**5. البرنامج الأكاديمي:**
6. Course Credits:	3-2-4	**6. عدد الساعات المعتمدة:**
7. Course NQF Level:	6	**7. مستوى المقرر وفقا للإطار الوطني للمؤهلات:**
8. Notional Hours:	164	**8. عدد الساعات الافتراضية:**
9. NQF Credits:	16	**9. عدد الساعات المعتمدة للمقرر وفقا للإطار الوطني للمؤهلات:**
10. Prerequisite:	CHEMY102	**10. المتطلب السابق للمقرر:**
11. Lectures Timing & Location:		**11. وقت المحاضرة ومكانها:**
12. General Mode of Teaching and Learning	Traditional تقليدي	**12. النمط العام للتعليم والتعلّم:**

13. Course Coordinator:		**13. منسّق المقرر:**
14. Course Instructor:		**14. مدرّس المقرر:**
15. Office Hours and Location:		**15. الساعات المكتبية ومكانها:**
16. Instructor's Email:		**16. البريد الإلكتروني لمدرّس المقرر:**
17. Academic Year:		**17. السنة الأكاديمية:**
18. Semester:		**18. الفصل الدراسي:**

19. Textbook(s):	**19. الكتب الدراسية للمقرر:**
Organic chemistry, 10th edition by John McMurry, Publication date: Sep 20, 2023.	
20. References:	**20. المراجع:**
Organic Chemistry 8th Edition, William H. Brown.	
21. Other Learning Resources Used (e.g. e-learning, field visits, periodicals, software, etc.):	**21. مصادر التعلّم الأخرى (مثال: التعلّم الإلكتروني، زيارات ميدانية، دوريات، برمجيات، إلخ....)**
22. Course Description (as published in the College Catalogue):	**22. توصيف المقرر (حسب ما ورد في دليل الكلية):**
The nature of organic compounds (structure and bonding); alkanes and cycloalkanes; isomerism; conformational analysis; alkenes and alkynes (structure, reactivity, addition reactions and synthesis); conjugated dienes; stereochemistry (chirality, enantiomers); properties and reactions of alkyl halides: nucleophilic substitution reactions, elimination reactions. Related practical work.	
23. Course Intended Learning Outcomes (3 to 5 CILOs):	**23. مخرجات التعلّم للمقرر (CILOs) (3 إلى 5 مخرجات تعلّمية):**
1. Define in detailed the main principles of organic chemistry including chemical bonding, molecular geometry, orbital hybridization, and molecule polarity.	
2. Use some advanced skills to identify functional groups, IUPAC naming, and different classes of organic compounds.	
3. Predict the stereochemistry of various organic molecules.	
4. Complete basic organic reactions with the suitable products/reagents and reasonable mechanisms in defined and some undefined reactions.	
5. Use basic skills and some advanced skills to interpret experimental data and reports from performing various organic experiments.	
24. Course Assessment Percentages (as per Regulations of Study and Examination at the University of Bahrain):	**24. أساليب التقييم ونسبها المئوية (بحسب نظام الدراسة والامتحانات في جامعة البحرين):**

Assessment التقييم	Type النوع	Percentage النسبة	Assessment Date تاريخ التقييم
Midterm I	Individual فردي	15%	
Midterm II	Individual فردي	15%	
Quizzes	Individual فردي	10%	
Lab Reports	Individual فردي	10%	
Lab Exam	Individual فردي	10%	
Final Exam	Individual فردي	40%	
Total	**100%**		

25. Description of Topics Covered	**25. وصف الموضوعات التي ينبغي تناولها:**
Topic Title ***(e.g. chapter/experiment title)*** **الموضوع**	***Description*** **التفصيل**
CH 1: Structure and Bonding	This chapter describes the basic principles of organic chemistry, covalent bonding, Lewis structures, VSEPR molecular geometry, and orbital hybridization.
CH 2: Polarity; Acids and bases	This chapter defines polar covalent bonds, electronegativity of atoms, formal charges, and resonance structures, as well as acids and bases.
CH 3: Alkanes and their stereochemistry	This chapter identifies organic functional groups, defines the structure of organic molecules, alkanes and their properties, IUPAC naming, different alkane conformations, and Newman projections.
CH 4: Cycloalkanes and their stereochemistry	This chapter defines cycloalkanes, stereoisomers, trans -cis isomers, angel strain, chair conformation, and axial equatorial positions.
CH 5: Stereochemistry	This chapter defines chiral molecules, chirality center, and optical activity. R and S configuration, enantiomers, diastereomers, Mesocompounds, and racemic mixtures.
CH 6: Organic reactions	This chapter describes the types of organic reactions, introduces reaction mechanisms, radical and polar mechanisms, electrophiles and nucleophiles, energy diagrams, transition states and intermediates.
CH 7: Alkenes structure and reactivity	This chapter defines alkenes, degree of unsaturation, naming, Z and E isomers, electrophilic addition reaction, Markovnikov's rule, carbocation structure and stability, rearrangement of carbocations (H and alkyl shifts), and Hammond postulate.

CH 8: Alkenes reactions and synthesis	This chapter details alkene reactions, such as addition reaction, dehydration, halogenations, oxymercuration, oxidation, reduction, and polymer formation.
CH 9: Alkynes	This chapter defines alkynes, their nomenclature, properties, and some of their reactions.
CH 10: Alkyl Halides	This chapter defines alkyl halides, preparation of alkyl halides from alkanes, alkenes, and alcohols, allyl radicals, and reactions of alkyl halides (Grignard, Gilman, and organometallic coupling reactions).
CH 11: Reactions of alkyl halides: Nucleophilic substitutions and Eliminations.	This chapter details S_N1, S_N2, E1, and E2 reactions, comparing their mechanisms, reaction rates, and other properties.

26. Weekly Schedule | **26. الجدول الأسبوعي**

Week الأسبوع	Date التاريخ	Topics Covered الموضوعات المتناولة	CILOs مخرجات التعلُم للمقرر (CILOs)	Teaching/Assessment Mode and Method منهجية ونمط التدريس/التقييم
1		Chapter 1	**1**	Traditional تقليدي
2		Chapter 2	**2**	Traditional تقليدي
3		Chapter 3	**1, 2**	Traditional تقليدي
4		Chapter 3 and 4	**1,2**	Traditional تقليدي
5		Chapter 4 and 5	**2,3**	Traditional تقليدي
6		Chapter 6	**4,3**	Traditional تقليدي
7		Chapter 6	**4**	Traditional تقليدي
8		Chapter 7	**4**	Traditional تقليدي
9		Chapter 7	**4**	Traditional تقليدي
10		Chapter 8	2,4	Traditional تقليدي
11		Chapter 8	2,4	Traditional تقليدي
12		Chapter 9	2,4	Traditional تقليدي
13		Chapter 10	2,4	Traditional تقليدي
14		Chapter 11	4,3	Traditional تقليدي
15		Chapter 11	4,3	Traditional تقليدي
16				Choose an item.

27. | **27. بيان النزاهة الأكاديمية**

Students are to observe the highest level of honesty and academic ethics in pursuit of their academic goals as per UOB Regulations of Student Conduct and Academic Integrity, Anti-plagiarism Policies, and Students' Rights and Responsibilities Handbook. The consequences for cheating, plagiarism, unauthorized collaboration, and other forms of academic dishonesty can be very serious and will be dealt with as per the aforementioned policies and regulations.	يتعيّن على الطلبة الالتزام بأعلى مستويات الصدق والأمانة والأخلاق الأكاديمية في سعيهم لتحقيق أهدافهم الأكاديمية وفقًا للوائح سلوك الطلاب والنزاهة الأكاديمية، سياسات مكافحة الانتحال، ودليل حقوق الطلبة وواجباتهم، المعمول بها في جامعة البحرين. يمكن لعواقب الغش والسرقة الأدبية والتعاون غير المصرح به وغيرها من أشكال عدم الأمانة الأكاديمية أن تكون خطيرة للغاية وسيتم التعامل معها وفقًا للسياسات واللوائح المذكورة آنفا.

28. Attendance and Absence Regulations	28. نظام الحضور والغياب
Students are required to adhere to regular attendance for class lectures and practical sessions, as determined by the nature of the course, as per Article (33) of Regulations of Study and Examination at the University of Bahrain.	يجب على الطلبة الالتزام بالحضور المنتظم للمحاضرات الصفية والعملية، حسبما تحدده طبيعة المقرر الدراسي، ووفقا للمادة (33) من نظام الدراسة والامتحانات في جامعة البحرين.