Syllabus: Organic Chemistry-1/ 110103237
Second Semester 2022 /2023

COURSE INFORMATION	
Course Name: Organic Chemistry-1 **Semester:** Second **Department:** Department of Chemistry **Faculty: Science**	**Course Code:** 110103237 **Section:** 2 **Core Curriculum**:
Day(s) and Time(s): Mon, Wed 12:30-2:00 **Classroom:** 106	**Credit Hours:** 3 **Prerequisites**: 110103102

COURSE DESCRIPTION

This course introduce students to nomenclature, isomerism, preparative methods, reactions and mechanisms (substitution, addition and elimination) of: alkanes and cycloalkanes, alkenes, alkynes stereochemistry and optical activity, alkyl halides, alcohols and ethers. Alcohols from carbonyl compounds, oxidation–reduction and organometallic compounds.
The main objective of the course is to teach students the basic principles of organic chemistry. The first part of the course will cover the fundamental aspects of structural organic chemistry to familiarize the students the main families of organic chemistry functions as well as the 3D structure of organic molecules. The basics of reactivity will also covered using the mechanisms. The course will be frequently illustrated with examples linked to other scientific disciplines, in particular to the field of life sciences.

DELIVERY METHODS

The course will be delivered through a combination of active learning strategies. These will include:

- PowerPoint lectures and active classroom based discussion
- Solved examples to be done traditionally on the board
- Relevant films and documentaries
- Video lectures
- Using molecular modeling software

FACULTY INFORMATION	
Name	**Dr. Eyad Younes**
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Office Hours:	**Monday** 11:00- 12:30 **Wednesday** 11:00-12:30 *Please send an e-mail (e.younes@hu.edu.jo) to meet at any other time.*

REFERENCES AND LEARNING RESOURCES

Required Textbook:

Organic Chemistry by T.W. Graham Solomons,. Craig B. Fryhle,. Scott A. Snyder, Global Edition, 2017. (You are not advised to use previous editions, due to significant changes in the newest edition

Suggested reading materials

1) Organic Chemistry, 8th edition by J. McMurry.
2) Organic Chemistry, 8th edition by Paula Bruice

STUDENT LEARNING OUTCOMES MATRIX

Core Curriculum Learning Outcomes	Program Learning Outcomes	Course Objectives	Course Student Learning Outcomes	Assessment Method
CC-LO-5 Think critically and creatively in a variety of methods in order to make decisions and solve problems.	CHEM-LO-1: Apply critical thinking and demonstrate problem-solving skills in two or more of the major fields of chemistry.	1. Develop an understanding of the basic principles of organic chemistry.	1. Introduction & Hybridization	• Exams • Quizzes •
		2.1 Draw and understand the structure of organic compounds using the bond line structure	2.1 Drawing chemical Structures	• Exams • Quizzes
		2.2 Polar bonds Formal charge Resonance structures.	2.2 Establishment of a good basic knowledge in writing Lewis Structures, identify the formal charges, and identification of different functional groups in organic compounds 2.3 Studying the resonances and its effect on stability of different organic compounds	• Exams • Quizzes
		3. Acids bases principles	3.1 Understand the principle of acid base reaction.	• Exams • Quizzes

			3.2 Predict the strength of acidity based on the structure.	• homework assignments
.CC-LO-4. Communicate competently with others using oral and written English skills CC-LO-6. Demonstrate competency in the use of research skills and various information sources. CC-LO-7. Identify the general concepts of humanities and natural sciences in a manner that reveals their value in life.	CHEM-LO-4: Use modern literature search methods to obtain information about chemistry topics and write reports.	4.1 Nomenclature of alkanes. 4.2 Physical properties of alkanes 4.3 Conformations of alkanes 4.5 Nomenclature of cycloalkanes	4.1. Applying the IUPAC rules for naming alkanes, cycloalkanes and alkyl halides.	• Quizzes • homework assignments
	CHEM-LO-6: Communicate results to chemists and non-chemists.	5.1 Stereochemistry 6.1 Nucleophilic Reactions (SN1 and SN2) 7.1 Alkenes and Alkynes	51. Draw the different types of isomers of organic compounds. 5.2 Understanding the stability of stereoisomers based on their structure 6.1. Propose a detailed mechanism for organic chemical reaction. 6.2 Identify the product(s) of organic reactions based on the reaction mechanism type 7.1 Learning the principle of chemical reaction of alkenes /alkynes 7.2 Apply the chemical reactions in multistep synthesis of organic compounds	• Quizzes • homework assignments
		8.1 Radical Reactions	8.1 Predict the reactivity of radical intermediates 8.2 Propose a detailed mechanism for radical organic chemical reaction.	

Course Calendar and Assessment

Students will be graded through the following means of assessment and their final grade will be calculated from the forms of assessment as listed below with their grade weighting taken into account. The criteria for grading are listed at the end of the syllabus

Assessment	Grade Weighting	Deadline Assessment
First Exam	30%	To be announced later
Second Exam	30%	To be announced later
Final Exam	40%	To be announced later

Description of Exams

Test questions will predominately come from material presented in the lectures. Semester exams will be conducted during the regularly scheduled lecture period. Exam will consist of a combination of multiple choice, short answer, match, true and false and/or descriptive questions

ACADEMIC SUPPORT

It is The Hashemite University policy to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their Instructor to ensure that their individual needs are met. The University through its Special Need section will exert all efforts to accommodate for individual's needs.

COURSE REGULATIONS

Participation

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance*. It is a student's responsibility to monitor the frequency of their own absences. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's responsibility to sign-in; failure to do so will result in a non-attendance being recorded.**

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

Plagiarism

Plagiarism is considered a serious academic offence and can result in your work losing marks or being failed. HU expects its students to adopt and abide by the highest standards of conduct in their interaction with their professors, peers, and the wider University community. As such, a student is expected not to engage in behaviours that compromise his/her own integrity as well as that of the Hashemite University.

Plagiarism includes the following examples and it applies to all student assignments or submitted work:

- **Use of the work, ideas, images or words of someone else without his/her permission or reference to them.**
- **Use of someone else's wording, name, phrase, sentence, paragraph or essay without using quotation marks.**
- **Misrepresentation of the sources that were used.**

The instructor has the right to fail the coursework or deduct marks where plagiarism is detected

Late or Missed Assignments

In all cases of assessment, students who fails to attend an exam, class project or deliver a presentation on the scheduled date without prior permission, and/or are unable to provide a medical note, will automatically receive a fail grade for this part of the assessment.

- Submitting a term paper on time is a key part of the assessment process. Students who fail to submit their work by the deadline specified will automatically receive a 10% penalty. Assignments handed in more than 24 hours

late will receive a further 10% penalty. Each subsequent 24 hours will result in a further 10% penalty.

- In cases where a student misses an assessment on account of a medical reason or with prior permission; in line with University regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment or extension can be arranged.

Student Complaints Policy

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.