



University of Petra		 جامعة البترا - خمسة وعشرون عاما University of Petra Anniversary
College of Arts and Sciences		كلية الآداب والعلوم
Department of Chemistry		قسم الكيمياء

### Course Syllabus

Year: 2019/2020

Second Semester

Course No.	Course Title	Prerequisite	Co-requisite	Credit hours Lectures / Lab.	ECTS
101413	heterocyclic chemistry	101211 and 101212	-	3/-	5 ECTS: European Credit Transfer System

Instructor Name	E-mail	Office No.	Office Ext.	Office Hours
Dr. Ahmad Daraosheh	adaraosheh@uop.edu.jo	7117	7117	Tue, Thurs: 12.00 – 13.30 Wed: 11.00 – 14.00

Coordinator's Name : <i>(if applicable)</i>	<i>Dr. Ahmad Daraosheh</i>
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Course Description	Description: Nomenclature of Heterocyclic compounds; The chemistry of heterocyclic compounds. 3-, 4-Member heterocycles; Aromatic Vs Non-Aromatic Heterocycles; 5-Membered rings with one and two heteroatoms (Furan, Pyrrol, Thiophene, Imidazole and Pyrazole; Six-Membered Aromatic Heterocycles (Pyridine)
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### Course Objectives

- To instill in students a sense of enthusiasm for organic chemistry, an appreciation of its application in different contexts and to involve them in an intellectually stimulating and satisfying experience of learning and studying.
- To develop in students, the ability to apply their chemical knowledge and skills to the solution of theoretical and practical problems in chemistry.
- To provide students with a knowledge and skills base from which they can proceed to further studies in specialized areas of organic chemistry or multi-disciplinary areas involving organic chemistry.
- To generate in students an appreciation of the importance of organic chemistry in an industrial, economic, environmental and social context.

### Course Intended Learning Outcomes (ILOs) and their Alignment with Program ILOs, Teaching and Learning Methods, and Assessment Methods:

Upon successful completion of this course, students are expected to achieve the following learning outcomes:

Course ILOs	Program ILOs	Teaching and Learning Method	Assessment Method
<b>Knowledge (K)</b>			
1. Identify major principles and concepts in organic chemistry.	K1	White board, powerpoint lecture	Exams & Quizzes

		slides using Data show, discussions.	
<b>2. Name organic compounds either by common names or systematic (IUPAC) names.</b>	<b>K2</b>	White board, powerpoint lecture slides using Data show, discussions.	<b>Exams &amp; Quizzes</b>
<b>Intellectual Skills (I)</b>			
<b>3. Identify different functional groups in organic chemistry, their classification and their physical properties.</b>	<b>I1</b>	White board, powerpoint lecture slides using Data show, discussions.	<b>Exams &amp; Quizzes</b>
<b>4. Analyze the nature and behavior of functional groups in organic reactions.</b>	<b>I1</b>	White board, powerpoint lecture slides using Data show, discussions.	<b>Exams &amp; Quizzes</b>
<b>5. Interpret and analyse chemical information and data obtained from reactions mechanisms.</b>	<b>I2</b>	White board, powerpoint lecture slides using Data show, discussions.	<b>Exams &amp; Quizzes</b>
<b>Practical skills (P)</b>			
The course is a theoretical course			
<b>Transferable Skills (T)</b>			
This skill is already achieved through ILOs (K, I)			

#### Course Schedule:

Week	Topic Details	Course ILO number	Reference
1,2	Nomenclature of Heterocyclic compounds	K1, K2	Chapter 1
3,4	The chemistry of heterocyclic compounds. 3, 4-Member heterocycles:	K1, I1, I2	Chapter 2
5,6	Aromatic Vs Non-Aromatic Heterocycles	K1, I2, I1	Chapter 3
7	Five Membered Heterocycles: Furan	K1, I2, I1	Chapter 4
8,9	Five Membered Heterocycles: Pyrrole	K1, I2, I1	Chapter 5
10	Five Membered Heterocycles: Thiophene	K1, I2, I1	Chapter 6
11, 12	5-Membered rings with two heteroatoms: Imidazole and Pyrazole	K1, I2, I1	Chapter 7
13,14	Six-Membered Aromatic Heterocycles: Pyridine (Azine)	K1, I1, I2	Chapter 8

#### Assessment Methods:

Assessment method	Grade	Comments
First Exam	25	(Tue 28/3/2020) 11.00-12.00
Second Exam	25	(Sun 10/05/2020) 11.00-12.00
Quizzes	10	Throughout the Course
Final Exam	40	Set by Registrar
<b>Total</b>	<b>100</b>	

**Alignment of Teaching and Learning Methods, Assessment and Course ILOs:**

Teaching method	Contact Hours	Assessed through	ILOs numbers
Lectures	42	Exams and Quizzes	All ILOs

**Learning References:**

1-Textbook (s): The Chemistry of heterocycles, by Theophil Eicher. Third Ed, 2012.

2- References: Any Heterocyclic Chemistry Book.

3- Other Resources: Power point slides supplied by the instructor.

**Course Policies:**

- **Attendance Policy:** University regulations apply to attendance.
- **Academic Honesty:** Academic dishonesty is an unacceptable mode of conduct, and will not be tolerated in any form at University of Petra. All persons involved in academic dishonesty and plagiarism in any form will be disciplined in accordance with University rules and regulations.

Approved by	Name	Date	Signature
Head of Department	Dr. Abdel Mnim Altwaiq	24/02/2020	
Faculty Dean	Prof. Rami Abdulrahim	25/02/2020	

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