



Course Syllabus
According to JORDAN National Qualification
Framework (JNQF)

Course Name: Organic Chemistry laboratory

Course Number: 11012213

General Course Information:

Course title	Organic Chemistry laboratory
Course number	11012213
Credit hours	2 Credit hours
Education type	4 hours [Face-to-Face]
Prerequisites/corequisites	11011204 + 11012212 أو متزامن
Academic Program	Bachelor
Program code	01
Faculty	Faculty of science
Department	Department of Chemistry
Level of course	2 nd year
Academic year /semester	First semester 2022/2023
Awarded qualification	BSc degree of chemistry
Other department(s) involved in teaching the course	None
Language of instruction	English
Date of production/revision	2022/2023

Course Coordinator:

Coordinator's name	Ms. Ghada Idrees
Office No	
Office Phone extension number	2754
Office Hours	
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Other Instructors:

Instructor name	
Office No	
Office Phone extension number	
Office Hours	
Email	

Course Description (English/Arabic):

English	Melting point; simple and fractional distillation; crystallization; extraction; steam distillation; chromatography; experiments in the synthesis of a number of organic compounds using different methods; experiments in identifying functional groups using different methods.
Arabic	درجة الانصهار; التقطير البسيط و الجزئي; البلورة; الاستخلاص; التقطير البخار; الكروماتوغرافيا; تجارب في تحضير عدد من المركبات العضوية باستخدام طرق مختلفة; تجارب في التعرف على المجموعات الوظيفية باستخدام طرق مختلفة.

Textbook: Author(s), Title, Publisher, Edition, Year, Book website.

Organic Chemistry Laboratory manual, Isra University 2018-2019

References: Author(s), Title, Publisher, Edition, Year, Book website.

Required book (s), assigned reading and audio-visuals:

1. Selected experiments in organic chemistry from different manual

Course Educational Objectives (CEOs):

1.	To enhance the theoretical knowledge is acquired in organic chemistry classes and to give the student the chance to apply what they have learned practically
2.	To familiarize students with basic practical skills and techniques and simple syntheses that will serve them in more advanced experimental work at the undergraduate and graduate levels.
3.	To familiarize students with properties of organic compounds and their safe handling.
4.	Able to design work both individually and as part of team

Intended Learning Outcomes (ILO's):

	Subject Intended learning outcomes (ILOs) describe what students are expected to know and be able to do at the end of the course. These outcomes are related to the knowledge, skill and competence that students acquire:	Relationship to CEOs	Contribution to PLOs	Bloom Taxonomy Levels*	Descriptors**
A	Knowledge and Understanding:				
A1	The student will be able to conversant with some of the common techniques regularly used in practical organic chemistry work, some of the major types of organic chemical reactions and the main characteristics associated with them and some synthetic pathways in organic chemistry, involving functional group introversions.	1,2	a	1	k
B	Intellectual skills:				
B1	Student will be able to analyze experiments data and presenting the results	1	g	4	s
C	Subject specific skills:				
C1	Student will be able to handling of [laboratory equipment's, glassware and hazardous chemicals] safety and learn some of the common techniques (melting point, boiling point, extraction, recrystallization, steam distillation and chromatography) and their use in preparation, separation and analysis of organic compounds.	1,2,3	d,e	3,4	s,c

D	Transferable skills:				
D1	Student will be learn how to work individually and with partners effectively	4	f	3	c

***Bloom Taxonomy Levels**

Level #	1	2	3	4	5	6
Level Name	Knowledge	Comprehension	Application	Analysis	Evaluation	Synthesis

**** Descriptor (National Qualification Framework Descriptors): K : Knowledge, S: Skill, C: Competency.**

Program Learning Outcome (PLOs):

Program Learning Outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the knowledge, skills, and behaviours that students acquire as they progress through the program. A graduate of the () program will demonstrate:	Descriptors**		
	K	S	C

1.	Describe the fundamental scientific principles and theories across the four subfields of chemistry (Organic, inorganic, analytical and physical).	✓		
2.	Identify and confirm chemical compounds structures as well as determine chemical composition	✓		
3.	Establish and concludes mechanisms of physical and chemical processes in addition to the ability of mastering qualitative and quantitative determination			✓
4.	Solve the scientific problems using different mechanisms and procedures based on critical thinking		✓	
5.	Conduct scientific experiments in chemistry			✓
6.	Commitment and interest in lifelong learning, and collaborate effectively with other people in a team			✓
7.	Prepare logical, organized and concise written reports, and oral and poster presentations that effectively communicate chemical content to other scientists.		✓	
8.	Commitment to the ethical principles of chemical research.			✓
9.	Find information about chemistry through databases and information		✓	
10.	Evaluation of calculations in chemistry experiments and information analysis using computer software.			✓
11.	Demonstrate safety laboratory techniques.		✓	

**** Descriptors according to the national qualifications framework (K: knowledge, S: skill, C: Competency)**

Weekly Schedule (please choose the type of teaching)

✓(4 hrs Face – To - Face)

☐ **Hybrid (2 Lectures Face – To - Face +1 Lecture Asynchronous)**

☐ **Hybrid (1 Lectures Face – To - Face +1 Lecture Asynchronous)**

☐ **Online (2 Lectures Synchronous +1 lecture Asynchronous)**

Week	Four Hours (face- to -face)	Second Hour (.....)	Third Hour (.....)	Ach. ILOs	Ach. PLOs	Descriptors *
1	Laboratory safety rules			C1	k,g	s
2	Melting point			A1 &B1 & C1 &D1	d,e,g	s
3	Boiling point and distillation			A1 &B1 & C1 &D1	d,e,g	s
4	Extraction			A1 &B1 & C1 &D1	d,e,g	s
5	steam distillation			A1 &B1 & C1 &D1	d,e,g	s
6	Recrystallization			A1 &B1 & C1 &D1	d,e,g	s
7	Midterm Exam					
8	Chromatography			A1 &B1 & C1 &D1	d,e,g	s

9	Nucleophilic substitution			A1 &B1 & C1 &D1	d,e,g	s
10	Dehydration of alcohols			A1 &B1 & C1 &D1	d,e,g	s
11	Preparation of Carboxylic acids			A1 &B1 & C1&D1	d,e,g	s
12	Esterification of alcohols and phenols			A1 &B1 & C1 &D1	d,e,g	s
13	Functional groups identification of unknown organic compounds			A1 &B1 & C1 &D1	d,e,g	s
14	Final Exam					

* K: Knowledge, S: Skills, C: Competency

Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

- (4 hrs Face – To - Face)
- Practice Labs
- Discussion Forums
- Quizzes
- Other Interactive online activities
- Reports

Course Policies:

A- Attendance policies:

The maximum allowed absences is 15% of the lectures.

B- Absences from exams and handing in assignments on time:

Midterm exam can be retaken based on approval of excuse by the instructor's discretion.

Not handing assignment on time will incur penalties.

C- Academic Health and safety procedures

D- Honesty policy regarding cheating, plagiarism, and misbehaviour:

Cheating, plagiarism, misbehaviour will result in zero grade and further disciplinary actions may be taken.

E- Grading policy:

- All homework is to be posted online through the e-learning system.
- Exams will be marked within 72 hours and the marked exam papers will be handed to the students.
- Online Activities (Course Videos, Practice labs, Discussion Forums, Quizzes) **20%**
- Midterm **30%**
- Final Exam **50%**

F- Available university services that support achievement in the course: **E-Learning Platform, Labs, Library.**

Required equipment:

- PC / Laptop with webcam and mic
- Internet Connection
- Access to the IU E-Learning Platform at: <https://elearn.iu.edu.jo/>
- E-learning plan
- Satisfaction questionnaires for online and face-to-face learning
- Software for e-learning

- Training

Assessment Tools implemented in the course:

- Final Exam
- Midterm Exam
- Quizzes
- Homework
- Practice Labs
- Discussion Forums
- Periodic reports for learning assessment
- Improvement plans for online or face-to-face teaching

Responsible Persons and their Signatures:

Course Coordinator	M.Sc. Ghada Idrees	Completed Date	16/ 10 / 2022
		Signature	<i>Ghada idris</i>
Received by (Department Head)	Dr. Manal Al Khabas	Received Date	17/10/2022
		Signature	<i>Manal Al Khabas</i>