جامعة الإسراء
ISRA UNIVERSITY

Course Syllabus

According to JORDAN National Qualification Framework (JNQF)

Course Name: Systematic Identification of organic compounds

Course Number: 11013214

General Course Information:

Course title	**Systematic Identification of organic compounds**
Course number	**11013214**
Credit hours	**3 Credit hours**
Education type	**6 hours [Face-to-Face]**
Prerequisites/corequisites	**11012212 + 11012213**
Academic Program	**Bachelor**
Program code	**01**
Faculty	**Faculty of science**
Department	**Department of Chemistry**
Level of course	**3rd 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	
Email	**gada.edris@iu.edu.jo**

Other Instructors:

Instructor name	
Office No	
Office Phone extension number	
Office Hours	
Email	

Course Description *(English/Arabic)*:

English	Diagnosis of unidentified organic compounds by specifying their physical properties (melting point, boiling point, and solubility), conduct the classification tests for functional groups, spectroscopic analysis, and the conversion of a compound to another (derivatives).
Arabic	تشخيص مركبات عضوية مجهولة الاسم من خلال تحديد الخصائص الفيزيائية (درجة الانصهار, درجة الغليان و الذائبية) و اجراء اختبارات التصنيف للمجموعات الوظيفية ؛ والتحليل الطيفي وتحويل مركب الى مركب اخر (المشتقات)

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

1.The Systematic Identification of Organic Compounds: by RALPH L. SHRINER; CHRISTINE K. F. HERMANN; TERENCE C. MORRILL; DAVID Y. CURTIN; REYNOLD C. FUSON . M"ine M. Pigliucci, 8th Edition, John Wiley & Sons, (2004)

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

Required book (s), assigned reading and audio-visuals: 1. Organic Chemistry Laboratory manual, Isra University 2018-2019

Course Educational Objectives (CEOs):

1.	To enhance the theoretical knowledge is acquired in organic chemistry classes and to achieve the basic skills in Systematic Identification of organic compounds
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):

1.	**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****
2. A	**Knowledge and Understanding:**				
3. A1	The student will be able to achieve the basic skills in Systematic Identification of organic compounds	1	a	**1**	**k**
4. B	**Intellectual skills:**				
5. B1	Student will be able to analyze experiments data and presenting the results	2	g	**4**	**s**
6. C	**Subject specific skills:**				
7. C1	The student will be able to identify organic compounds by solubility tests, physical properties, elemental tests, classification tests, preparing a derivative and by spectroscopic method	2,3	b ,e	**3,4**	**S,c**

8. D	**Transferable skills:**				
9. 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)*

✓*(**6 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	Six Hours (face- to -face)	Second Hour (……)	Third Hour (……)	Ach. ILOs	Ach. PLOs	Descriptors*
1	**Introduction to Systematic Identification of organic compounds & safety rules**			A1	a	k
2	**Preliminary Examination, Physical Properties, and Elemental Analysis**			A1 & B1 & C1 & D1	b,e,g,f	s
3	**Classification of organic compound by solubility**			A1 & B1 & C1 & D1	b,e,g,f	s
4	**Chemical Tests for Functional Groups**			A1 & B1 & C1 & D1	b,e,g,f	s

	- For O-containing functional group					
5	**Chemical Tests for Functional Groups - For N-containing functional group**			A1 & B1 & C1 & D1	b,e,g,f	s
6	**Week 6: Chemical Tests for Functional Groups - For certain functional group**			A1 & B1 & C1 & D1	b,e,g,f	s
7	**Midterm Exam**					
8	**The Preparation of Derivatives**			A1 & B1 & C1 & D1	b,e,g,f	s
9	**Identification of Unknown 1**			A1 & B1 & C1 & D1	b,e,g,f	s
10	**Identification of Unknown 2**			A1 & B1 & C1 & D1	b,e,g,f	s
11	**Identification of Unknown 3**			A1 & B1 & C1 & D1	b,e,g,f	s
12	**Infrared Spectrometry**			A1 & B1 & C1 & D1	b,e,g,f	s
13	**Nuclear Magnetic Resonance Spectrometry**			A1 & B1 & C1 & D1	b,e,g,f	s
14	**Mass Spectrometry**			A1 & B1 & C1 & D1	b,e,g,f	s
15	**Final Exam**					

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

Teaching Methods and Assignments:

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

- **(6 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	Gada idris

Received by (Department Head)	**Dr. Manal Al Khabas**	**Received Date**	**16/10/2022**
		Signature	