

Course E-Syllabus

1	Course title	Special topics in analytical chemistry
2	Course number	0353411
3	Credit hours	3 hours
	Contact hours (theory, practical)	1:15 hour everyday
4	Prerequisites/corequisites	0333312
5	Program title	Bachelor in Chemistry
6	Program code	03
7	Awarding institution	The University of Jordan
8	School	Faculty of Science
9	Department	Department of Chemistry
10	Level of course	Final year
11	Year of study and semester (s)	Summer semester 2019/2020
12	Final Qualification	According to University regulations
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Teaching methodology	<input type="checkbox"/> Blended <input checked="" type="checkbox"/> Online
16	Electronic platform(s)	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....
17	Date of production/revision	13/7/2020

18 Course Coordinator:

Name: Ahmad Makahleh
Office number: 109
Phone number: 22176
Email: a.makahleh@ju.edu.jo

19 Other instructors:

Name:
Office number:
Phone number:
Email:

Name:
Office number:
Phone number:
Email:

20 Course Description:

As stated in the approved study plan.
This course covers different analytical techniques that used in research, laboratories and industrials.

21 Course aims and outcomes:

A- Aims:

The aim of this course is to provide the students with good knowledge on designing an analytical method starting from collecting a sample, followed by selecting the suitable sample preparation and analysis technique. Sample preparation such as LLE, SPE, SCF, and many of microextraction techniques will be explained in detail. The principle of chromatographic techniques such as high performance liquid chromatograph (HPLC), and gas chromatograph (GC) using many type of detectors will be also taught. The understanding and differentiation between different chromatographic mechanisms such as partitioning, ion exchange and adsorption chromatography are other objectives of this course.

B- Intended Learning Outcomes (ILOs):

Upon successful completion of this course, students will be able to:

- B1. To design analytical experiment by selecting the suitable extraction and analysis techniques.
- B2. Understand the differences between different sample preparation techniques.
- B3. Understand the differences between different chromatographic techniques.

22. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1	1.1	Chapter 1: Introduction to analytical method	Synchronous lecturing/meeting /Microsoft Teams	Quizzes, assignments and Final exam	Handbook of instrumental techniques For analytical chemistry (Frank Settle, editor)
	1.2				
	1.3	Chapter 2: Introduction to sample preparation			
	1.4				
	1.5				
2	2.1	Chapter 3: Application to LLE			
	2.2				
	2.3				
	2.4	Chapter 4: Application to SPE			
	2.5				
3	3.1	Chapter 5: Supper critical fluid extraction			
	3.2				
	3.3				
	3.4				
	3.5				
4	4.1	Chapter 6: Microextraction			
	4.2				
	4.3				
	4.4	Chapter 7: Liquid phase microextraction			
	4.5				
5	5.1	Chapter 8: Application to microextraction			
	4.2				
	5.3				
	5.4				
	5.5				
6	6.1	Chapter 9: Introduction to chromatography			
	6.2				
	6.3				
	6.4	Chapter 10: Gas chromatography			
	6.5				
7	7.1	Chapter 11: High performance liquid chromatography			
	7.2				
	7.3				
	7.4				
	7.5				
8	8.1	Presentations	Oral presentation		
	8.2				
	8.3				
	8.4				
	8.5				

- Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting
- Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc

23 Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	Period (Week)	Platform
Assignment	10	Ch.2+3	3	Moodle
Quiz	10	Ch4+5+6	5	Moodle
Assignment	10	Ch7+8	6	Moodle
Presentation	20		8	Microsoft teams
Final exam	50	All chapters		In the campus

24 Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):

Computer and internet connection

25 Course Policies:

A- Attendance policies: All students are expected to follow the rules at The University of Jordan. Unexcused absences exceeding 15% of the total lectures will result in "F" grade

B- Absences from exams and submitting assignments on time: University regulations.

C- Health and safety procedures: NA

D- Honesty policy regarding cheating, plagiarism, misbehavior: University regulations

E- Grading policy: University regulations

F- Available university services that support achievement in the course: NA

26 References:

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

Uploaded at E-learning

B- Recommended books, materials and media:

Handbook of instrumental techniques For analytical chemistry
(Frank Settle, editor)
Media are uploaded at E-learning.

27 Additional information:

Name of Course Coordinator: -----Ahmad Makahleh---Signature: ----- Date: -13/7/2020---

Head of Curriculum Committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of Curriculum Committee/Faculty: ----- Signature: -----

Dean: ----- Signature: -----