



مركز الاعتماد  
وإضمان الجودة  
ACCREDITATION & QUALITY ASSURANCE CENTER



**The University of Jordan**

**Accreditation & Quality Assurance Center**

**Course Syllabus**

**Course Name:**

1	Course title	Analytical Chemistry
2	Course number	0333211
3	Credit hours (theory, practical)	3
	Contact hours (theory, practical)	3
4	Prerequisites/corequisites	0303102
5	Program title	Bachelor of Chemistry
6	Program code	03
7	Awarding institution	The University of Jordan
8	Faculty	Science
9	Department	Chemistry
10	Level of course	Second year
11	Year of study and semester (s)	Second summer semester 2016/2017
12	Final Qualification	Bachelor
13	Other department (s) involved in teaching the course	N/A
14	Language of Instruction	English
15	Date of production/revision	

**16. Course Coordinator:**

*Office numbers, office hours, phone numbers, and email addresses should be listed.*

109, Sat. Sun. Mon. Tue. Wed. Thur., 10-11 am, +962 6 5355000 Ext:22176, [a.makahleh@ju.edu.jo](mailto:a.makahleh@ju.edu.jo).

**17. Other instructors:**

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**18. Course Description:**

*Analytical chemistry is an undergraduate course that covers the following analytical methods and concepts: The nature of analytical chemistry, errors in chemical analysis, chemical equilibria, gravimetric method of analysis, titration methods and complexation titration.*

**19. Course aims and outcomes:****A- Aims:**

*This course treats chemistry as a quantitative science and seeks to develop a keen observational and analytical insight. The aim of the course is to give the student a solid fundament in analytical chemistry, focusing mainly on classical but still widely used wet chemical methods. Following an introduction to analytical chemistry from a philosophical viewpoint, the fundamentals of the analytical process are discussed with focus on isolation, detection, quantification and identification of analytes. Statistical treatment of experimental errors is taught, with focus on ways of quality assuring measurements. Among the classical methods treated in the course are equilibrium and electrolytes concept, gravimetry, and titrations (precipitation, neutralization and complexometric).*

**20. Topic Outline and Schedule:**

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
Nature of analytical chemistry	1			First exam	Fundamental of analytical chemistry by Skoog, 9 <sup>th</sup> Edition, 2004
Calculation used in analytical chemistry	1			First exam	
Errors in chemical analysis	1+2			First exam	
Random errors	2			First exam	
Statistical data treatment and evaluation	2			First exam	
Chemical equilibria	3			Second exam	
Solving equilibrium problem for complex system	3			Second exam	
Effect of electrolyte on chemical equilibria	4			Second exam	
Gravimetric method of analysis	4			Second exam	
Titration methods	4+5			Final exam	
Neutralization titration	5			Final exam	
Complexation titration	5			Final exam	

**21. Teaching Methods and Assignments:**

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

- Explaining the topic and by the strategy of discussion and asking questions, then waiting for student's answers, then open the table for judging their suggestions.
- Teach them how to read and answer the questions from the reference text book

**22. Evaluation Methods and Course Requirements:**

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

First exam 20%  
Second exam 30%  
Final exam 50%

**23. Course Policies:**

A- Attendance policies:

All the students should show up on the class time

B- Absences from exams and handing in assignments on time: 6 absence allowed only (for one hour lecture)

Make up exam: after the normal exams of around one week

C- Health and safety procedures:

No phone on during the lecture

D- Honesty policy regarding cheating, plagiarism, misbehavior:

Cheating = 0 result

E- Grading policy:

First 20%, Second 30% , Final 50%

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

All available

**24. Required equipment:**

Scientific calculator

Notebook

**25. References:**

A- Required book (s), assigned reading and audio-visuals:  
Fundamental of analytical chemistry by Skoog, 9<sup>th</sup> Edition, 2004

**26. Additional information:**

Name of Course Coordinator: Dr. Ahmad Makahleh-----Signature: ----- Date: -23/07/2017-

Head of curriculum committee/Department: ----- Signature: -----

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

Head of curriculum committee/Faculty: ----- Signature: -----

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

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Assistant Dean for Quality Assurance  
Course File