جامعة المجمعة
Majmaah University

Course Specifications

Institution:	Majmaah University
Academic Department :	Chemistry
Programme :	Chemistry
Course :	Instrumental Analysis Chemistry
Course Coordinator :	Lecturer. Amneh Shtaiwi
Programme Coordinator :	Dr. Gehan Al-Omayri
Course Specification Approved Date :	18/ 12 / 1435 H

This form compatible with NCAAA 2013 Edition

A. Course Identification and General Information

1 - Course title : Instrumental Analysis Chemistry.	Course Code: Chem 411.
2. Credit hours : 4	
3 - Program(s) in which the course is offered: Chemistry	
4 – Course Language : Arabic	
5 - Name of faculty member responsible for the course: Lecturer. Amneh Shtaiwi	
6 - Level/year at which this course is offered :	
7 - Pre-requisites for this course (if any) : • Quantitative analytical chemistry	
8 - Co-requisites for this course (if any) : • Instrumental Analysis Chemistry lab.	
9 - Location if not on main campus : **main campus**	

10 - Mode of Instruction (mark all that apply)

A - Traditional classroom		What percentage?	..... %
B - Blended (traditional and online)	√	What percentage?	75 %
D - e-learning	√	What percentage?	25%
E - Correspondence		What percentage?	..... %
F - Other		What percentage?	..... %

Comments :

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B Objectives

What is the main purpose for this course?

Identification and analysis of electrical equipment, including for analysis methods and Potential Calomtry, Voltamitry and Ampirometery. As well as ways to give entrance to the spectroscopy, chromatography and identify their kinds and principles.

Briefly describe any plans for developing and improving the course that are being implemented :

Using Internet in the research work .

C. Course Description

1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
-A general introduction in the electrolytic methods include Potentiometric , colomtric and gravimetric analysis and Electrolytic.	4	12
- Ampirometric and voltamitric titration.	4	12
- Introduction to the spectral analysis methods include visible spectroscopy.	2	6
- Methods of molecular spectroscopy.	1	3
- Methods of atomic spectroscopy.	1	3
Introduction to the Chromatography and distribution coefficient.	1	3
Chromatographic methods of separation sheets, columns and gas chromatography.	2	6

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	.....	.....	.....	.....	.....	2
Credit	3	.....	2	.....	.....	4

3. Additional private study/learning hours expected for students per week.

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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	**- To learn the electrolytic methods include Potentiometric , colomtric and gravimetric analysis and Electrolytic. - To learn methods used in the expression of different concentrations, Equilibrium and the formation of complexes.**	Lecture Exercises Discussion	Exams, Questions
1.2	**Describe the spectral analysis methods include visible spectroscopy.**	Experiments Discussion	Experimental Study, Exams
2.0	**Cognitive Skills**		
2.1	**- Describe the Methods of molecular spectroscopy.**	Lecture, Exercises Discussion	Exams, Questions
2.2	**- Describe the Methods of atomic spectroscopy**	Lecture, Exercises Discussion	Exams, Questions
3.0	**Interpersonal Skills & Responsibility**		
3.1	**Teamwork**	Divide in the form of practical sets.	Oral exercises.
4.0	**Communication, Information Technology, Numerical**		
4.1	**- Calibrations calculations for neutralization interactions , redox , sedimentation and complexes**	Lecture, Discussion	Oral exercises Exams.
5.0	**Psychomotor**		
5.1	**Experimental work**	Lecture, Discussion	Oral exercises Exams.

5. Schedule of Assessment Tasks for Students During the Semester:

	Assessment task	Week Due	Proportion of Total Assessment

1	**First Exam**	6	15
2	**Second Exam**	10	15
3	**Final Exam**	14	60
4	**Resaearch**	9	10

D. Student Academic Counseling and Support

Academic Advising

E. Learning Resources

1. List Required Textbooks :

- Instrumental Analysis Chemistry, Ibrahim Al-Zamel. 1993.
- Quantitative analytical chemistry, 5th edition by j.S. Fritz and G.H. Schneck. 1987 .

2. List Essential References Materials :

- Instrumental Analysis Chemistry, Ibrahim Al-Zamel. 1993.
- Key creativity in Chemistry, Omar Helwah .

3. List Recommended Textbooks and Reference Material :

- Quantitative analytical chemistry, 5th edition by j.S. Fritz and G.H. Schneck. 1987

4. List Electronic Materials :

- chemix, chemsketch, chemdraw programs.
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5. Other learning material :

- Crocodile program.

F. Facilities Required

1. Accommodation

- Seats and computers.

2. Computing resources

- Lap top.

3. Other resources • Projector.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching: • Questionnaires Evaluation.
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor : • Discussions.
3 Processes for Improvement of Teaching : • Review course plans periodically and adjuste..
4. Processes for Verifying Standards of Student Achievement • Corrected tests with the teaching staff of the department..
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement : • Questionnaires Evaluation.

Course Specification Approved
Department Official Meeting No (…..) Date … / …. / ….. *H*

Course's Coordinator	**Department Head**
Name : Amneh Shtaiwi	***Name :*** .....
Signature : Amneh Shtaiwi	***Signature :*** .....
Date : 18/ 12 / 1435 *H*	***Date :*** …./ … / …… *H*