



Course Specifications

Institution:	Majmaah University
Academic Department :	Chemistry
Programme :	Bachelor degree of chemistry
Course :	Descriptive Analytical Chemistry
Course Coordinator :	Lecturer. Enas Aljohani
Programme Coordinator :	Dr. Gehan Alaemary
Course Specification Approved Date :	28/ 12 / 1436 H□

A. Course Identification and General Information

1 - Course title :	Quantitative Analytical Chemistry.	Course Code:	Chem 224.																														
2. Credit hours :	3																																
3 - Program(s) in which the course is offered:	Chemistry																																
4 – Course Language :	Arabic																																
5 - Name of faculty member responsible for the course:	Lecturer. Enas Aljohani																																
6 - Level/year at which this course is offered :																																	
7 - Pre-requisites for this course (if any) :	<ul style="list-style-type: none"> • General Chemistry I 																																
8 - Co-requisites for this course (if any) :	<ul style="list-style-type: none"> • Descriptive analytical chemistry lab 																																
9 - Location if not on main campus :	main campus																																
10 - Mode of Instruction (mark all that apply)	<table border="1"> <tr> <td>A - Traditional classroom</td> <td><input checked="" type="checkbox"/></td> <td>What percentage?</td> <td><input type="checkbox"/></td> <td>...80.... %</td> <td><input type="checkbox"/></td> </tr> <tr> <td>B - Blended (traditional and online)</td> <td><input type="checkbox"/></td> <td>What percentage?</td> <td><input type="checkbox"/></td> <td>%</td> <td><input type="checkbox"/></td> </tr> <tr> <td>D - e-learning</td> <td><input checked="" type="checkbox"/></td> <td>What percentage?</td> <td><input type="checkbox"/></td> <td>20%</td> <td><input type="checkbox"/></td> </tr> <tr> <td>E - Correspondence</td> <td><input type="checkbox"/></td> <td>What percentage?</td> <td><input type="checkbox"/></td> <td>..... %</td> <td><input type="checkbox"/></td> </tr> <tr> <td>F - Other</td> <td><input type="checkbox"/></td> <td>What percentage?</td> <td><input type="checkbox"/></td> <td>..... %</td> <td><input type="checkbox"/></td> </tr> </table>			A - Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="checkbox"/>	...80.... %	<input type="checkbox"/>	B - Blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>	%	<input type="checkbox"/>	D - e-learning	<input checked="" type="checkbox"/>	What percentage?	<input type="checkbox"/>	20%	<input type="checkbox"/>	E - Correspondence	<input type="checkbox"/>	What percentage?	<input type="checkbox"/> %	<input type="checkbox"/>	F - Other	<input type="checkbox"/>	What percentage?	<input type="checkbox"/> %	<input type="checkbox"/>
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Comments :	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>																																

B Objectives

<p>What is the main purpose for this course?</p> <ul style="list-style-type: none"> - Define the importance for the descriptive analysis and foundations. - definition the types of inorganic interactions. - Focus on the values of equilibrium constants.
<p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ul style="list-style-type: none"> • Adoption of the students themselves in the study, • The use of effective teaching methods and modern. • Change the content and updated



C. Course Description

1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
-- A general introduction in analytical chemistry types includes the importance of the study of analytical chemistry in the areas of pharmacy, the environment and nature.	2	4
-The importance of the study descriptive analysis.	3	6
- The basics of descriptive analysis.	4	8
- View of some devices used in the descriptive analysis.	1	2
- The theoretical basis for the separation and analysis of mixtures and analysis of various samples.	3	6
-Descriptive analysis and methods used in the expression of different concentrations. Equilibrium and the formation of complexes.	2	4
- Precipitation equilibrium.	1	2

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

<input type="checkbox"/>	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours2..... <input type="checkbox"/> <input type="checkbox"/>2..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	56 <input type="checkbox"/>
Credit	2 <input type="checkbox"/> <input type="checkbox"/>	1 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3



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

.....2.....☐





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 concept of Quantitative analytical chemistry and its importance. - To learn methods used in the expression of different concentrations, Equilibrium and the formation of complexes.	- Lectures - Discussion - Experiments - Researches	-Work activities -Field exercises -Periodic tests -Final tests
1.2	separation and analysis of mixtures.		
	- Describe the Theoretical basis for the separation and analysis of mixtures and analysis of various samples - The basics of descriptive analysis.		
2.0	Cognitive Skills		
2.1	By the end of the course students should be able to: The ability of the existence of solutions to unexpected problems in creative ways.	Lectures -Discussion -Experiments -Researches	- Participate - Research - solve problems - collective and individual duties. midterm and final exams
2.2	The ability to use laboratory tools accurately. The ability to critical and analytical thinking. The ability to analyze the concepts and basics and principles. trying to figure out the problems contained testing process and how to solve it. Apply the skills acquired in the academic and professional contexts related to the science of chemistry.		
3.0	Interpersonal Skills & Responsibility		
3.1	By the end of the course students should be able to: Cooperative work in the laboratory. Conduct research work as a team. Effective participation in the activities of the methodology. The ability to self-reliance when learning. Assume responsibility and individual responsibility towards society	-Homework to develop the skills of self-study. -The practical studies as groups. -The work of - Intramural Research -Internet search	Follow up experiments in the laboratory , Effective participation within the hall - Assessment research and



	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
	Take individual responsibility and responsibility towards the community with a commitment to the values and ethics that are compatible with Islamic values	-PowerPoint Offers.	Review the Collective duties. - The ability to self-Study in the form of homework. Follow up experiments in the laboratory .
4.0	Communication, Information Technology, Numerical		
4.1	By the end of the course students should be able Use of modern communication technologies and information.	Solving problems. Use of the Computer The use of a calculator. Discussion and dialogue	Discussion Monthly tests And Theoretical tests.
	Discussion and dialogue during lectures.		
	Application of mathematical and statistical methods when solving problems.		
5.0	Psychomotor		
5.1			

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

	Assessment task	Week Due	Proportion of Total Assessment
1	Class activates (in class quizzes, homework and research) ...	Weekly	10%
2	Med- term exam.	6 th	20%
3	Med- term exam (Practical)	9 th	10%
4	Final test (practical)	14 th	20%
	Final test (theoretical)		40%





D. Student Academic Counseling and Support

Academic Advising

E. Learning Resources

1. List Required Textbooks :

- Analytical Chemistry volumetric analysis and weighted, Ibrahim Al-Zamel. 1993.
- Quantitative analytical chemistry, 5th edition by j.S. Fritz and G.H. Schneck. 1987 .

2. List Essential References Materials :

- Analytical Chemistry volumetric analysis and weighted, 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

- Lecture room with at least 35 seats
- Projector - interactive whiteboard

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2. Computing resources

- Computer room containing at least 20 systems

3. Other resources

- Availability of equipment relevant to the course material

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Analysis of the results of students in decision .
- Questionnaire a faculty member for the students at the end of the semester.
- Ask a questionnaire that content course for students in the end of the semester .





- Exam Midterm .
- Assess vocabulary scheduled by analyzing workmanship skills among students.
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2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Peer consultation on teaching ,
- discuss research students with some of the members of the section ,
- Invite specialists and their discussion.

3 Processes for Improvement of Teaching :

- Review of teaching strategies recommended.
- Diversity teaching methods and activating the use of modern technologies
- The formation of the scientific in section of qualified and experienced
- Provide learning resources, especially the library and the Internet.
- Motivate and encourage students to actively participate in the research and experimentation
- Participate effectively in the training courses for the development of the capacities of Professor.
- Training and continuous development
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4. Processes for Verifying Standards of Student Achievement

- check marking by a faculty member of the department for a sample of students
 - check marking by an independent faculty member.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- Develop appropriate vocabulary and keep pace with changing times
- Reviewing Course Description
- Follow-up in the new effective teaching strategies
- benefit from the development of university courses and activated in educational performance
- Hold workshops to view the results

Course Specification Approved
Department Official Meeting No (3) Date 28 / 12 / 1436.. H

Course's Coordinator ☐

Name : ☐ Enas aljohani ☐

Signature : ☐ Enas

Date : ☐ 28/ 12 / 1436 H ☐

☐ **Department Head** ☐

☐ **Name :** ☐ Gehan Alaemary

☐ **Signature :** ☐

☐ **Date :** ☐ 28./ 12 / 1436 H ☐



