MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Analytic Chemistry			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	UOMU031016				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader	م.م ياسين حمزة جاسم		**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	14/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Teaching the basics of analytical chemistry as a science that examines the study of chemical analysis methods and multiple applications It fundamentally contributes to the development of industry and technology. 2. Dealing on the basis of quoting and then learning with the aim of developing the student's mental ability. 3. Developing the student's ability to collect information and apply it. 4. Encouraging scientific research and improving students' discussion skills. 5. Developing and developing the creative and thinking skills of the department's students, enabling them to deal in a scientific manner in taking decisions Decisions related to their specialty or that enable them to succeed in facing work problems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Listening – Speaking – Reading- Writing
Indicative Contents المحتويات الإرشادية	-1 - The student should be familiar with the basics of analytical chemistry. 2- The program aims to raise the student's ability to the level of understanding in the field of chemical sciences as it relates to his specialty. 3- Enabling the student to distinguish between ancient and modern types and methods of analysis, how to deal with them, and choose the most appropriate method For work requirements. 4- Developing and raising the student's cognitive abilities.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1 Discussion

	-2 Student groups -3 Scientific trips 4- E-learning on campus -5 display experiences -6 workshops Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL)
الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	86	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	64	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All

Total assessment	100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Unit 1-Introduction to Analytical chemistry ,definition, scope ,classification and Gravimetric analysis
Week 2	Unit 1-Volumetric analysis
Week 3	Unit 3- Electro analytical method of analysis ,Potentiometric analysis
Week 4	Unit 3- Electrogravimetric and Coulometric analysis
Week 5	Unit 4- Voltammetric and Conductmetric analysis
Week 6	Unit 5- Chromatography ,Gas chromatographic analysis
Week 7	High Performance Liquid Chromatographic analysis
Week 8	Unit 7- First Exam
Week 9	Unit 7- Spectroscopy ,Ultravioletvisible spectrophotometric analysis
Week 10	Infrared spectrophotometric analysis
Week 11	Unit 9- Fluorescence and phosphorescence spectrophotometric analysis
Week 12	Unit 9- Turbidmetric and naphelometric spectrophotometric analysis
Week 13	Unit 9- Atomic absorption and Atomic emission spectrophotometric analysis
Week 14	14 --- X-ray spectroscopic analysis and Nuclear Magnetic Resorance
Week 15	Unit 9- Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Unit 9- TMeasurement of molarity
Week 2	Unit 9- unit of measurement and 4 chemical reaction
Week 3	Unit 9- First Exam
Week 4	14 --- Introduction to analysis

	chemistry
Week 5	Unit 9- second exam
Week 6	Unit 10- Reaction of alcohol
Week 7	Unit 11- Knowledge of amines and 14 their interactions
Week 8	Third Exam
Week 9	atomic structure
Week 10	Exam 4
Week 11	Matter
Week 12	Exam 5
Week 13	Knowledge of esters and ethers
Week 14	Final Exam

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Analytical Chemistry 2.1 by David Harvey (Summer 2016) Modern Analytic Chemistry Spectroscopy - in English	Yes
Recommended Texts	DC Electrical Circuit Analysis: A Practical Approach Copyright Year: 2020, dissidents.	No
Websites	https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering	

Grading Scheme
مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	**A** – Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C – Good	جيد	70 - 79	Sound work with notable errors
	D – Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E – Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.