	وزارة التعليم العالي والبحث العلمي **جامعة المستقبل** كلية العلوم قسم الكيمياء الحياتية	

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information **معلومات المادة الدراسية**			
Module Title	Kinetic Chemistry		**Module Delivery**
Module Type	Basic		☒ **Theory** ☐ **Lecture** ☒ **Lab** ☒ **Tutorial** ☐ **Practical** ☐ **Seminar**
Module Code	UOMU036234		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	2	**Semester of Delivery**	1
Administering Department	Dept. of Biochemistry	**College**	College of Science
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date		**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. Order and molecularity 2. Factors influencing the rate of reaction 3. Zero Order Kinetics 4. Kinetics of first and second order reaction 5. Pseudo unimolecular reaction 6. Arrhenius equation 7. Mechanism 8. Collision Theory 9. Transition state theory
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	1. Cognitive goals: students will be abel to answer thequestions about the rate of the reaction and then determine the order of the reaction, half life time of the reaction. Also know how can be control the reaction via control the factors that can be effected the reactions.
Indicative Contents **المحتويات الإرشادية**	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. encourage students in the class via ask them some questions and expanding their critical thinking skills.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	63	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطالب أسبوعيا**	4.2
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	37	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	2.4
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	100		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	5% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	1	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects/ Lab.	1	10% (10)	Continous	
	Report	1	10% (10)	11	LO # 5, 8 and 10
Summative assessment	**Midterm Exam**	2hr	10% (10)	8,13	LO # 1-7
	Final Exam	3hr	50% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Why we need to study kinetic chemistry.
Week 2	Order and molecularity and the factors effect the reaction rate
Week 3	Reaction rate and order of the reaction , kinetic of first order reaction
Week 4	Quiz, kinetic of second order reaction
Week 5	n-order reaction
Week 6	Temperature and Reaction Rates
Week 7	Quiz, problems and solve it with students in different groups
Week 8	Mid1-term Exam
Week 9	Type of reaction
Week 10	Collosion theory
Week 11	Transition state theory
Week 12	Quiz and Mechanisim of the reaction
Week 13	Mechanism of enzyme.

Week 14	General discussion
Week 15	Final Exam

Delivery Plan (Weekly Lab. Syllabus) **المنهاج الاسبوعي للمختبر**	
	Material Covered
Week 1	Measurement of Density and Viscosity of Liquids
Week 2	Boyle's Law: Pressure–Volume Relationship of Gases
Week 3	Charles's Law: Volume–Temperature Relationship of Gases
Week 4	Calorimetry: Measurement of Enthalpy Change of a Reaction
Week 5	Verification of Hess's Law
Week 6	Determination of the Equilibrium Constant (Kc)
Week 7	Reaction Kinetics: Determination of Reaction Order by Initial Rate Method

Learning and Teaching Resources **مصادر التعلم والتدريس**		
	Text	**Available in the Library?**
Required Texts	Peter Atkins	yes
Recommended Texts		
Websites		

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 is 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.