MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**single variables calculus**			**Module Delivery**	
Module Type	core			☒ **Theory** ☒ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	ATU12013				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	ATU12		**College**	PMTE	
Module Leader	Fatima Obaid Salman		**e-mail**	fatima.obaid@atu.edu.iq	
Module Leader's Acad. Title	Assistant teacher		**Module Leader's Qualification**	Master	
Module Tutor	None		**e-mail**		
Peer Reviewer Name	None		**e-mail**		
Scientific Committee Approval Date	01/06/2023		**Version Number**	1	

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 Objectives أهداف المادة الدراسية	1. To introduce the student to the basic and advanced principles of calculus and integrations and its various applications 2. To develop his mental abilities when solving exercises. 3. Linking data with information to reach a solution to issues and benefit from them in other subjects.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Define the determinants and be able to solution of linear equation 2. Recognize trigonometric functions and some applications. 3. Summarize what is meant by a scalar and vector product and projections. 4. Discuss the Limit and continuity. 5. Describe derivative theory. 6. Define Chain rule. 7. Identify the inverse function and its derivative. 8. Discuss Derivative of logarithmic and hyperbolic functions. 9. Discuss the definite and indefinite integral. 10. Explain the Retail integration. 11. Identify the Integration by completing the square. 12. Discuss the approximate area using the trapezoidal rule and Simpsons.
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	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 that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem)	**125**		

الحمل الدراسي الكلي للطالب خلال الفصل	

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	0	0%		
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	20% (20)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Determinants and solution of linear equation by Gramer's rule
Week 2	Trigonometric functions and some applications
Week 3	Vectors, scalar and vector product and projections, mechanical applications to vectors
Week 4	Limit and continuity, and some applications
Week 5	Derivative theory, derivatives of algebraic and implicit functions
Week 6	Chain rule, mechanical applications on the derivative
Week 7	The inverse function and its derivative
Week 8	Derivative of logarithmic and hyperbolic functions
Week 9	Integration, definite and indefinite integral, integration of trigonometric and logarithmic functions
Week 10	Retail integration
Week 11	Integration by division of fractions
Week 12	Integration by trigonometric function method

Week 13	Integration by completing the square
Week 14	Simplified differential equations
Week 15	Approximate area using the trapezoidal rule and Simpsons
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Calculus, R. Mohammed and A. Abdulaali, 2002	
Recommended Texts	Advanced calculus, Murray R. Splegel, 1962	
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 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.