MODULE DESCRIPTION FORM

Module Information			
معلومات المادة الدراسية			
Module Title	**Calculus II**	**Module Delivery**	☒ Theory ☐ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar
Module Type	**Basic**		
Module Code	**CSIT1212**		
ECTS Credits	**5**		
SWL (hr/sem)	**125**		
Module Level	UGI	**Semester of Delivery**	2
Administering Department	Cybersecurity	**College**	College of Computer Science and Information Technology
Module Leader	Elaf Ali Safooq	**e-mail**	elaf.safooq@uowa.edu.iq
Module Leader's Acad. Title	Assist Lecturer	**Module Leader's Qualification**	M.Sc. in Mathematics
Module Tutor	M.Sc Elaf Ali Safooq	**e-mail**	elaf.safooq@uowa.edu.iq
Peer Reviewer Name	Dr. Ali Kareem	**e-mail**	alialmujab@uowa.edu.iq
Scientific Committee Approval Date	2/03/2026	**Version Number**	V1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	CSIT1102	**Semester**	1
Co-requisites module	Non	**Semester**	…

Department Head Approval   **Dean of the College Approval**

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	The course aims to study the various types of mathematical functions and how to calculate their derivatives through many different methods of derivation, such as the usual and implicit derivation, as well as the study of the integrals of these functions and the different methods of calculating the integration of functions, whether by the usual or approximate methods.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	A- Cognitive goals A1- Knowing the transcendental functions, which differ from the usual mathematical functions. A 2- Knowing its characteristics and drawings A3- Know how to find the derivative of each function A4- Knowledge of calculating integrals in different ways B - The soft skills objectives of the course. B1 - Students' knowledge of different types of mathematical functions. B2 - How to find derivatives and integrals for different functions
Indicative Contents المحتويات الإرشادية	Knowing the basics of mathematics, which are necessary for every student, and teaching them to benefit from what they have studied in the service of their country, as well as gaining students the ethics of their scientific specialization. • Part1: Derivation of functions (30 hrs) • Part2: Implicit derivation (30 hrs) • Part3: Integration of functions of all kinds (30 hrs) • Part4: Fundamental theorem of calculus (30 hrs)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The lecturer's strategy is to give lectures and conduct short tests with the adoption of giving open assignments and grades as encouragement to students.

Student Workload (SWL)

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	77	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	5	10% (10)	3, 6,9,12	All
	Assignments	5	10% (10)	2,5,7,10	All
	Onsite Assignments	2	10% (10)	4,11	A1, A2, B1
	Reports	2	10% (10)	4,11	A3, A4, B2
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	All
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Derivation of functions
Week 2	Calculate the slope of the derivative
Week 3	Derivation of functions by to the definition of derivation and by derivation laws
Week 4	Implicit derivation
Week 5	Derivation into ranks higher than one
Week 6	Derivation by to the chain rule
Week 7	Derivation of trigonometric functions and their inverses
Week 8	Derivation of exponential and logarithmic functions
Week 9	L'Hopital base
Week 10	Integration of functions of all kinds
Week 11	definite integral

Week 12	indefinite integral
Week 13	Fundamental theorem of calculus
Week 14	**integration methods**
Week 15	**Approximate methods for calculating integration**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1- Calculus. Thomas. book 2- Derivatives and integration. book	No
Recommended Texts	1- Calculus I .paul Dawkins book 2- All mathematics books are useful for this subject	No
Websites	https://www.khanacademy.org/math/calculus-1	

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.