Ministry of Higher Education and Scientific Research
UNIVERSITY OF ANBAR
COLLEGE of COMPUTER SCIENCES AND INFORMATION TECHNOLOGY
DEPT. COMPUTER NETWORKS SYSTEMS

وزارة التعلـــيم العالـــي والبحـــث العلمي
جامـــعـــة الأنبار
كلـــية علوم الحاسوب وتكنولوجيا المعلومات
قســـم أنظمة شبكات الحاسوب

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information		
معلومات المادة الدراسية		
Module Title	**Mathematics**	**Module Delivery**
Module Type	Support	☒ Theory
Module Code	NSDC113	☐ Lecture
ECTS Credits	**4**	☐ Lab
SWL (hr/sem)	**100**	☐ Tutorial ☐ Practical ☐ Seminar
Module Level		**Semester of Delivery**	
Administering Department	NSD	**College**	CSIT
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**	

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

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Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Core Mathematical Knowledge: The course aims to provide students with a solid foundation of core mathematical concepts and theories. This includes topics such as algebra, calculus, geometry, discrete mathematics, probability, and statistics. The aim is to ensure that students have a comprehensive understanding of fundamental mathematical principles.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Understand and Apply Mathematical Concepts: Demonstrate a thorough understanding of mathematical concepts, theories, and techniques relevant to the module. Apply these concepts to solve mathematical problems and analyze mathematical structures and relationships.
Indicative Contents المحتويات الإرشادية	Calculus Linear Algebra Discrete Mathematics Probability and Statistics Differential Equations

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Hands-on Practical Exercises Case Studies and Real-World Examples Collaborative Learning Continuous Assessment and Feedback

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3.2
Unstructured SWL (h/sem)	52	**Unstructured SWL (h/w)**	3.4

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	الحمل الدراسي غير المنتظم للطالب خلال الفصل		الحمل الدراسي غير المنتظم للطالب أسبوعيا	
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	10% (10)	5,10	LO #1,2, 3 and 5
	Assignments	2	10% (10)	2,12	LO # 3, 4 and 5
	Projects / Lab.				
	Report	1	10% (10)	13	LO # 5,8 and l0
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-6
	Final Exam	3 hr	60% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Functions: Function Definition, Domain and range of functions, Graphing of function
Week 2	Limits: Definition of limits, Theorems of limits, Type of limits
Week 3	The Definition and Interpretation of the Derivative
Week 4	Properties of Derivative , Some laws of derivatives
Week 5	Derivatives of the six trig functions
Week 6	Exponential Functions, Logarithm Functions
Week 7	Inverse Sine, Inverse cosine
Week 8	Inverse tangent, Alternate Notation
Week 9	The six hyperbolic trigonometric functions I
Week 10	The six hyperbolic trigonometric functions II
Week 11	The two forms of the chain rule
Week 12	Using the chain rule
Week 13	first derivative, second derivative, third derivative.

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Week 14	logarithms
Week 15	the properties of logarithms
Week 16	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	George B. Thomas, Jr., Maurice D. Weir, Joel Hass, THOMAS' CALCULUS: EARLY TRANSCENDENTALS, Twelfth Edition, Pearson Education, Inc., 2010.	
Recommended Texts	Howard Anton, Irl Bivens, Stephen Davis, CALCULUS, 10th Edition, John Wiley & Sons, Inc., 2012.	
Websites		

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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.