MODULE DESCRIPTION FORM
نموذج وصف المادة الدراسية

Module Information		
معلومات المادة الدراسية		
Module Title	**Mathematics II**	**Module Delivery**
Module Type	**Basic**	☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	**ICE121**	
ECTS Credits	**7**	
SWL (hr/sem)	**175**	

Module Level	1	**Semester of Delivery**		2
Administering Department	ICE	**College**	KHW	
Module Leader	Zinah abbas	**e-mail**	Zinah.a@kecbu.uobaghdad.edu.iq	
Module Leader's Acad. Title	lecturer	**Module Leader's Qualification**		Ph.D.
Module Tutor	Nil	**e-mail**	Nil	
Peer Reviewer Name	Nil	**e-mail**	Nil	
Scientific Committee Approval Date	06/2023	**Version Number**	1.0	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	ICE113	**Semester**	1, 1
Co-requisites module		**Semester**	

	Module Aims, Learning Outcomes and Indicative Contents
	أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية
Module Objectives أهداف المادة الدراسية	1) Formulate and solve abstract mathematical problems. 2) Recognize real world problems that are amenable to mathematical analysis and formulate mathematical models. 3) Apply mathematical methodologies to open-ended real world problems. 4) Recognize connections between theory and applications.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1) Solving and computing real-world applications of finite and discrete mathematics. 2) Setup and solve linear systems geometrically and algebraically. 3) Solve problems in a range of mathematical applications using derivatives. 4) Represent vectors analytically and geometrically, and compute dot and cross products for presentations of lines and planes. 5) Distinguish between the concept of sequence and series and determine limits of sequence. 6) Define, differentiate and integrate functions represented as power series expansions, including Taylor series.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A – Integral, multiple integral. [25 hrs] Part B – Application of definite integral and vectors [25 hrs] Part C – Mathmetical modeling with differential equations [25 hrs] Part D – Matrix and infinite series. [15 hrs]

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 and by considering types of simple experiments involving some sampling activities 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	93	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	82	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

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	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	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	Integrations
Week 2	Techniques of integrations
Week 3	Techniques of integrations
Week 4	Techniques of integrations
Week 5	Numerical integration ,Maclaurin Series
Week 6	Polar coordinate system
Week 7	Complex numbers
Week 8	Matrixes
Week 9	Vectors
Week 10	Double integrals

Week 11	Preview of Differentials equations, First order differential equation
Week 12	second order differential equation
Week 13	Triple integral
Week 14	Series and sequences
Week 15	Series and sequences
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	Thomas' calculus 11ed	Yes
Recommended Texts	Calculus, ANTON BIVENS, DAVIS 10 th ed.	No
Websites	https://www.coursera.org/courses?query=mathematics	

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.