



Ministry of Higher Education and
Scientific Research – Iraq
Al-Furat Al-Awsat Technical University
Al-Musaib Technical College
Department of Electrical Engineering Techniques



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	APPLIED MATHEMATICS		Module Delivery
Module Type	BASIC		☒ Theory Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar
Module Code	EET204		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	2	Semester of Delivery	1
Administering Department	Electrical Engineering Techniques	College	Al-Musaib Technical College
Module Leader		e-mail	
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	MSC
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	14/06/2023	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	The applied mathematics curriculum aims to teach the student the principle of mathematics, lows , solve the equations and the electrical circuit.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. Definition of differential equation, degree and order 2. Solve five type of ordinary differential equations 3. Laplace transform lows, properities 4. Inverse laplace transform 5. Second order differential equation, Homogenous, Non Homogenous 6. Operations on the vector 7. Types of coordinatees
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A - Fundamentals of applied mathematics</u> Introduction to basic concepts, functions, ends, vectors, trigonometric and inverse functions, derivatives, applications of derivatives, integration, methods of integration, matrices <u>Part B – Solve equations</u> Fundamental definitions,Solve five type of ordinary differential equations ,Laplace transform lows, properities,Inverse laplace transform,Second order differential equation, Homogenous, Non Homogenous, vectors, coordinatees.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Type something like: 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 .

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	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.1

Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125
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Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	6	10% (10)	5 and 11	LO #1, #2 and #7
	Assignments	12	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.				
	Report				
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Vectors type ,Addition ,subtraction ,scaller multiplication ,length of vector, Distance formula , compute angle between vectors and convert coordinates
Week 2	Introduction about the ordinary of differential equations ,Types, The order and degree of differential equations ,Separable of ordinary of differential equations
Week 3	Homogenous and Non Homogenous of ordinary of differential equations
Week 4,5	Exact and not exact of ordinary of differential equations
Week 6	Linear ordinary of differential equations
Week 7	Bernoullis Equations
Week 8	Solve equation about differential equation
Week 8	Second order differential equation, Homogenous, Non Homogenous
Week 9,10	Introduction to laplace transform,Lows, Properties of laplace transform
Week 11	Examples about Properties of laplace transform

Week 12	Inverse laplace transform,Lows ,examples
Week 13	Solve equation of inverse laplace using Simple real poles, Repeated real poles, Un repeated complex poles
Week 14	Final Examination

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	CALCULAS thomas	Yes
Recommended Texts	كتاب التفاضل والتكامل د. رمضان محمد, د. احمد عبدالعالي	No
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.