

## Module (Course Syllabus) Catalogue

### 2023-2024

College	Erbil Technical Engineering College	
Department	Civil Engineering Department	
Module Name	Mathematics- I	
Module Code	MAT204	
Degree	Technical Diploma <input type="checkbox"/> Bachler <input checked="" type="checkbox"/> High Diploma <input type="checkbox"/> Master <input type="checkbox"/> PhD <input type="checkbox"/>	
Semester		
Qualification		
Scientific Title		
ECTS (Credits)	6	
Module type	Prerequisite <input type="checkbox"/> Core <input checked="" type="checkbox"/> Assist. <input type="checkbox"/>	
Weekly hours	4	
Weekly hours (Theory)	(4 ) hr Class	(160) Total hrs Workload
Weekly hours (Practical)	( )hr Class	( )Total hrs Workload
Number of Weeks	12	
Lecturer (Theory)	Jamy Kh. Ahmed and arkhawan Jawhar Sharef	
E-Mail & Mobile NO.	<a href="mailto:Jamy.ahmed@epu.edu.iq">Jamy.ahmed@epu.edu.iq</a> (07504334430) <a href="mailto:Arkhanwan.sharef@epu.edu.iq">Arkhanwan.sharef@epu.edu.iq</a> (07504012886)	
Lecturer (Practical)		
E-Mail & Mobile NO.		
Websites		

## Course Book

<b>Course Description</b>	<p>In this course students will extend their experience with functions, limits and intervals, as they study the fundamental concepts of the way of solving equations by matrices. Important objectives of this course are to develop and strengthen the student's ability to solve derivatives in different types of functions. This course is designed to make the student understand number categories, functions, graph of functions, domains, ranges, limits, continuity, derivatives, integrations, natural logarithms, exponential functions, logarithmic functions, inverse trigonometric functions, hyperbolic functions, inverse hyperbolic functions, integration by part, integration using partial fractions, trapezoidal method.</p>			
<b>Course objectives</b>	<p>A primary objective of a course in mathematics is to provide a bridge for the student from high-school or lower-division mathematics courses to upper division mathematics. The student will be challenged to grow in mathematical maturity, and to develop and strengthen problem-solving skills.</p>			
<b>Student's obligation</b>	<ol style="list-style-type: none"> <li>1. Attendance at lectures is required.</li> <li>2. Based on their real individual performance, students are graded. Students must provide evidence of their own knowledge and skills. It is not permissible to submit someone else's work, get or give unauthorized help (e. g. during tests or quizzes).</li> </ol>			
<b>Required Learning Materials</b>				
<b>Evaluation</b>	<b>Task</b>	<b>Weight (Marks)</b>	<b>Due Week</b>	<b>Relevant Learning Outcome</b>
	Paper Review	N/A	N/A	N/A

	Assignments	Homework	10%	3, 8	a, b, c
		Class Activity	2%	N/A	a, b, c, d,
		Report	6%	9	N/A
		Seminar	10%	10	a, b, c
		Essay	N/A	N/A	N/A
		Project	N/A	N/A	N/A
	Quiz	8%	2,4,6,8	a, b, c, d,	
	Lab.	N/A	N/A	N/A	
	Midterm Exam	24%	9	a, b, c, d	
	Final Exam	40%	12	a, b, c, d,	
	Total	100%			

**Specific learning outcome:**

Upon successful completion of this subject, the student will be able to:

- a. Understand function notation and graphical representation.
- b. Calculating derivatives and interpretations of derivatives.
- c. Computing definite and indefinite integrals.
- d. Area and accumulation.

**Course References:**

Thomas, *“Thomas’ Calculus”*, 14th edition,

Course topics (Theory)	Week	Learning Outcome
Functions	1	
Functions (continue)	1	a
Trigonometric functions	2	a
Limits	2	A
Limits (continues)	3	a

Limits (continues)	3	a
Differentiation	4	B
Differentiation (continue)	4	b
Differentiation (continue)	5	B
Derivatives of Trigonometric functions	5	b
Derivatives of Trigonometric functions (continue)	6	b
Integrals	6	C
Substitution technique	7	c
Substitution technique (continue)	7	C
Integration by part technique	8	C
Integration by part technique (continue)	8	c
Seminar	9	A, b, c
Trigonometric integrals	10	a, b, c
Trigonometric integrals (continue)	11	d
Trigonometric integrals (continue)	12	d
<b>Practical Topics</b>	<b>Week</b>	<b>Learning Outcome</b>

**Extra notes:**

**External Evaluator**

