

Faculty of Engineering & Technology

Differentiation with Applications and Algebra (Math 1)

Information :

Course Code : MTH 111

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Faculty of Engineering & Technology

Instructor Information :

Title	Name	Office hours
Lecturer	Soliman Abdulkarim Alkhatib	7
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Lecturer	Soliman Abdulkarim Alkhatib	7
Assistant Lecturer	MOAMEN AHMED GASSER HASSAN KAMEL IBRAHIM KAMEL	
Assistant Lecturer	TAREK ALI ABDALLAH TEAMA	7
Assistant Lecturer	Basma Magdy Ahmed Mohamed	12
Assistant Lecturer	Doaa Nabil Sayed Mohamed Elsayed Khodair	10
Assistant Lecturer	TAREK ALI ABDALLAH TEAMA	7
Assistant Lecturer	Doaa Nabil Sayed Mohamed Elsayed Khodair	10
Assistant Lecturer	Basma Magdy Ahmed Mohamed	12
Teaching Assistant	Shahd Muhammed Anwer Muhammed Hamed	1
Teaching Assistant	Reham Shawket Mostafa Taha Khalaaf	

Description :

- 1) Calculus:
 - A) Concept of a function, limits, Continuity, and Differentiation.
 - B) Rules of Differentiation. Chain rule, Implicit Differentiation. Differentiation of parametric functions.
 - C) Transcendental functions and differentiation. Trigonometric and Inverse Trigonometric Functions. Exponential and Logarithmic Functions.. Hyperbolic and inverse hyperbolic functions.
 - D) Indeterminate Forms and L'Hopital's Rule.
 - E) Application of derivatives. Taylor and Maclaurin expansion, polynomial, and series. Extrema of a function. Asymptote lines, Curve Sketching.
- 2) Algebra:
 - A) Definitions and properties of determinants and matrices, Algebra of Matrices.
 - B) Reduced matrix. Rank of a Matrix. Solution of linear systems using inverse Matrix, and Cramer's Rule.
 - C) Gauss - Jordan Method. Homogeneous and non homogeneous systems. Square and rectangular systems.
 - D) Solution of linear algebraic systems by Iterative Methods. Jacobi method, Seidel Method.
 - E) Eigenvalues and Eigenvectors.

