

بسم الله الرحمن الرحيم

Republic of Iraq
The Ministry of Higher Education
& Scientific Research



University: Diyala
College: Engineering
Department: Mechanic
Stage: 1st
Lecturer name: Hussein Burhan
Qualification: Asis. Lecturer
Place of work: University of Diyala

Flow up of implementation cell pass play

Course Instructor	Hussein Burhan				
E-mail	Hussein.burhan80@gmail.com				
Title	Mathematics				
Course Coordinator	Course				
Course Objective	Knowledge and understanding are fundamental to studying mathematics and form the base from which to explore concepts and develop problem-solving skills. Through knowledge and understanding, students develop mathematical reasoning to make deductions and solve problems.				
Course Description	3 hrs theoretically and 1hr tutorial				
Textbook	1- Calculus Howard Anton 2- Calculus Thomas				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
General Notes					

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Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	27/11/2016	General Concepts, Slope - Cartesian Coordinates - Slope of a line - Equations and distances		
2	28/11/2016	Graphing of functions, Limits - Graphs of equations - Limits and intervals		
3	4/12/2016	Continuity - Domain and Range - Continuity test		
4	5/12/2016	Trigonometric functions - Trigonometric functions - Properties - Rules - Graphing		
5	11/12/2016	Inverse trigonometric functions - Applications - Rules - Properties		
6	12/12/2016	Derivatives of functions - Rules of derivatives - Chain rule - Implicit derivatives		
7	18/12/2016	Derivatives of trigonometric functions - Derivatives of trigonometric and inverse trigonometric functions		
8	19/12/2016	Derivatives of hyperbolic functions - Derivatives of hyperbolic and Inverse		
9	25/12/2016	Application of Derivatives - L'Hopital rule - Velocity and acceleration - Max. and Min.		

11	26/12/2016	Indefinite Integrals <ul style="list-style-type: none"> - Integration formulas - Integration of logarithmic and exponential functions 		
11	2/1/2017	Logarithmic and exponential functions <ul style="list-style-type: none"> - Logarithmic and exponential functions - Properties - Rules 		
12	8/1/2017	Integrals of functions <ul style="list-style-type: none"> - Trigonometric and inverse trigonometric 		
13	9/1/2017	Integrals of other functions <ul style="list-style-type: none"> - Hyperbolic and Inverse hyperbolic functions 		
14	15/1/2017	Methods of Integration <ul style="list-style-type: none"> - Integration by parts - Integration for odd and even 		
15	16/1/2017	Integration of Trigonometric Substitutions <ul style="list-style-type: none"> - Trigonometric Substitutions 		
16	22/1/2017	Integration of Partial fractions and Rational functions <ul style="list-style-type: none"> - Partial fractions 		

Half-yearbreak

17	23/1/2017	Applications of Integration - Definite integral and area		
18		General Substitutions - Length of the curve and surface area		
19		Triple Integrals (volume) - Triple Integrals (volume)		
21		Double Integrals - Area between two curves		
21		Matrices - Elementary Operations with matrices and Vectors		
22		Determinants and Properties - Transpose and inverse of matrices		
23		Solution of System of Equations - Solution of system of equations using		
24		Complex Numbers - Introduction to complex numbers		
25		Mathematical Operations for Complex Numbers - Argand diagrams and product quotients		
26		De Moivre's Theorem - Powers and roots		
27		Polar coordinates		
28		Area in polar coordinates		
29		Vectors		
30		General Substitutions and quiz - Quiz, answers and solutions		

INSTRUCTOR Signature:

Dean Signature: