Republic of Iraq

Ministry of Higher Education and Scientific Research Supervision and Scientific Evaluation Apparatus

University: Shatt Al-Arab
College: Engineering
Department: Civil Engineering

Stage: 3rd stage

Lecturer name: Khalid A. Subber

Academic title: Assistant Lecturer

Course Weekly Outline

Name	Khalid Abdul Jabbar. Subber
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Course name	Engineering mathematics
Course objective	The course aims to learn differential equations and methods of solving them
Course description	Gain complete knowledge of modeling differential equations and how to solve them and their physical and engineering applications
References	ERWIN KREYSZIG, ADVANCED ENGINEERING
External sources	MATHEMATICS, NINTH EDITION, JOHN WILEY & SONS, INC., 2006

Course assessment	Lab.	Quizzes and assessment	Mid-term exam	Final exam
		20	**20**	**60**

General notes	

Course Weekly Outline

Week No.	Theoretical	Experimental	Aims
1	The types and classifications of differential equations		Understanding and comprehending differential equations, their solutions, and engineering and physical applications.
2	Ordinary differential equations and types of solutions		
3	DE with separable variables and homogeneous equations		
4	Exact differential equations		
5	Linear and Bernoulli DEs		
6	Various applications		
7	Various applications		
8	Homogeneous DE with constant coefficients		
9	Non-homogeneous DE with constant coefficients		
10	HDEs with variable coefficients		
11	Various applications		
12	Various applications		
13	Fourier series		
14	The types and solutions of partial differential equations		
15	Applications of PDE		