

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			
E-mail address	khalid_subber@sa-uc.edu.iq			
Course name	Engineering Analysis			
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
		40	10	50
General notes				

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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		