

King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
SYLLABUS Math- 301

Semester	112
Title	Methods of Applied Mathematics
Textbook	Advanced Engineering Mathematics by Zill, Wright and Cullen (Fourth Edition, 2011).
Coordinator	Faisal A. Fairag

Week	Date	Sec.	Material	Homework
1	Jan 28 – Feb 1	9.1 9.5 9.7	Vector Functions The Directional Derivative Divergence and Curl	1,12,16,17,21,26,33, 41 2,7,9,14,17,21,23,32,29 2,6,10,14,17,22,27
2	Feb 4 – 8	9.8 9.9	Line Integrals Line Integrals Independent of the Path	2,6,8,11,16,19,24,28,33 1,10,15,18,21,26
3	Feb 11 –15	9.12 9.13	Green's Theorem Surface Integrals	2,4,6,9,18,23,25 2,5,10,13,18,22,25,33
4	Feb 18– 22	9.14 9.16	Stokes' Theorem Divergence Theorem	1,3,6,8,13,17 2,4,7,11,14
5	Feb 25 –29	4.1 4.2	Definition of the Laplace transform Inverse Transform, Transforms of Derivatives	1,5,14,26,30,37,42(a) 2,10,19,22,24,32,35
6	March 3 –7	4.3 4.4 4.5	Translation Theorems Additional Properties Dirac Delta Function	2,8,13,20,24,31,37,48,55,63 1,10,16,22,27,31,38,46 1,4,8,12
Major Exam # 1				
7	March 10– 14	12.1 12.2	Orthogonal Functions Fourier Series	2,6,11,13 1,6,12,17,20
8	March 17 – 21	12.3	Fourier Cosine and Sine Series	1,8,12,16,25,35,38
☺ Mid Term Vacation from March 24-28 ☺				
9	March 31- April 4	12.5	Sturm-Liouville Theorem	2,4,6,12
10	April 7 –11	12.6	Bessel and Legendre Series	2,4,6,8,15,20
Major Exam # 2				
11	April 14-18	13.1 13.3	Separable Partial Differential Equation Heat Equation	2,8,12,16,22,26,27 2,3,6
12	April 21-25	13.4 13.5	Wave Equation Laplace's Equation	1,3,6,10,17 2,4,7,10,14
13	April 28- May 2	14.2 14.3	Problems in Polar and Cylindrical Coordinates Problems in Spherical Coordinates	2,4,9,12 2,5,11,12
14	May 5 -9	15.2	Applications of the Laplace Transforms	2,4, 10,14,18,24
15	May 12 -16	15.3 15.4	Fourier Integral Theorem Fourier Transforms	1,4,10 1,6,10,12,16

Important Dates

February 8	Last day for dropping course(s) without permanent record
March 7	Last day for dropping course(s) with grade of "W"
April 11	Last day for withdrawal from all courses with grade of "W" thru the Univ Registrar Office
May 9	Last day for withdrawal from all courses with grade of "WP/WF" thru the University Registrar Office.