

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

Semester	102
Title	Methods of Applied Mathematics
Textbook	Advanced Engineering Mathematics by Zill and Cullen (Third Edition, 2006).
Coordinator	A. Bokhari

Week	Date	Sec.	Material	Homework
1	Feb 12 – 16	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 19 – 23	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 26 – March 02	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	March 05– 09	9.14 9.16	Stokes' Theorem Divergence Theorem	1,3,6,8,13,17 2,4,7,11,14
5	March 12 –16	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 19 –23	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
Thursday March 24, Major Exam # 1 from 1:00 PM – 3:00 PM (Building 54)				
7	March 26– 30	12.1 12.2	Orthogonal Functions Fourier Series	2,6,11,13 1,6,12,17,20
8	April 02 – 06	12.3	Fourier Cosine and Sine Series	1,8,12,16,25,35,38
Mid Term Vacation from April 09-13				
9	April 16 –20	12.5	Sturm-Liouville Theorem	2,4,6,12
10	April 23 – 27	12.6	Bessel and Legendre Series	2,4,6,8,15,20
Tuesday, 26 April, Major Exam # 2 from 7:00 PM – 9:00 PM (Building 54)				
11	April 30 – May 04	13.1 13.3	Separable Partial Differential Equation Heat Equation	2,8,12,16,22,26,27 2,3,6
12	May 07 – 11	13.4 13.5	Wave Equation Laplace's Equation	1,3,6,10,17 2,4,7,10,14
13	May 14 – 18	14.2 14.3	Problems in Polar and Cylindrical Coordinates Problems in Spherical Coordinates	2,4,9,12 2,5,11,12
14	May 21–25	15.2	Applications of the Laplace Transforms	2,4, 10,14,18,24
15	May 28 – June 1	15.3 15.4	Fourier Integral Theorem Fourier Transforms	1,4,10 1,6,10,12,16

Important Dates

February 23	Last day for dropping course(s) without permanent record
March 23	Last day for dropping course(s) with grade of "W" thru Internet
April 27	Last day for withdrawal from all courses with grade of "W" thru the Univ Registrar Office
May 25	Last day for withdrawal from all courses with grade of "WP/WF" thru the University Registrar Office