King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
SYLLABUS
Semester II: 2014-2015(142)
Coordinator: Dr. Muhammad Yousuf

Course #:   MATH 301
Title: Methods of Applied Mathematics
Textbook: Advanced Engineering Mathematics by Zill and Wright (Fifth Edition)

Week	Date	Sec.	Topics	Suggested Homework Problems
1	Jan 25 – 29	9.1 9.5	Vector Functions The Directional Derivative	1,12,16,17,21,26,33, 41 2,7,9,14,17,21,23,32,29
2	Feb 1 –5	9.7 9.8	Curl and Divergence Line Integrals	2,6,10,14,1722,27 2,6,8,11,16,19,24,28,33
3	Feb 8 – 12	9.9 9.12	Independence of the Path Green's Theorem	1,10,15,18,21,26 2,4,6,9,18,23,25
4	Feb 15 – 19	9.13 9.14	Surface Integrals Stokes' Theorem	2,5,10,13,18,22,25,33 1,3,6,8,13,17
5	Feb 22 – 26	9.16 4.1	Divergence Theorem Definition of the Laplace transform	2,4,7,11,14 1,5,14,26,30,37,43
Major Exam I : Will be announced later			
6	March 1 – 5	4.2 4.3	Inverse Transform, Transforms of Derivatives Translation Theorems	2,10,19,22,24,32,35 2,8,13,20,24,31,37,48,55,63
7	March 8 –12	4.4 4.5	Additional Operational Properties The Dirac Delta Function	1,10,16,22,27,31,38,46 1,4,8,12
8	March 15–19	12.1 12.2	Orthogonal Functions Fourier Series	2,6,11,13 1,6,12,17,20
Midterm Vacation: March 22 – 26, 2015			
9	March 29 – April 2	12.3	Fourier Cosine and Sine Series	1,8,12,16,25,35,38
10	April 5 – 9	12.5	Sturm-Liouville Theorem	2,4,6,12
11	April 12–16	12.6 13.1	Bessel and Legendre Series Separable Partial Differential Equations	2,4,6,8,15,20 2,8,12,16,22,26,27
Major Exam II : Saturday, April 04, 2015, 11:00 AM – 01:00 PM			
12	April 19–23	13.3 13.4	Heat Equation Wave Equation	2,3,6 1,6,9,16,23
13	April 26 – 30	13.5 14.2	Lap lace's Equation Problems in Cylindrical Coordinates	2,4,7,10,14 2,4,9,12
14	May 3 –7	14.3 15.2	Problems in Spherical Coordinates Applications of the Laplace Transform	2,5,11,12 2,4, 10,14,18,24
15	May 10 – 14	15.3 15.4	Fourier Integral Fourier Transforms	1,4,10 1,6,10,12,16
Final Exam : Wednesday, May 20, 2015, 08:00AM			

Grading Policy:

Exam I	25%
Exam II	25%
Final Exam	35%
Class work	15%

Attendance:

Attendance is compulsory. KFUPM policy with respect to attendance will be strictly enforced.

Any student accumulating **9 unexcused absences** will be awarded DN Grade in the course.