

King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
SYLLABUS
Semester II: 2013-2014(132)
 Coordinator: Dr. Muhammad Islam Mustafa

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 26 - 30	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 2 - 6	9.7 9.8	Curl and Divergence Line Integrals	2,6,10,14,17,22,27 2,6,8,11,16,19,24,28,33
3	Feb 9 - 13	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 16 - 20	9.13 9.14	Surface Integrals Stokes' Theorem	2,5,10,13,18,22,25,33 1,3,6,8,13,17
5	Feb 23 - 27	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 : Saturday, March 1, 2014, 12:30PM - 14:30PM				
6	March 2 - 6	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 9 - 13	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 16 - 20	12.1 12.2	Orthogonal Functions Fourier Series	2,6,11,13 1,6,12,17,20
Midterm Vacation: March 23 - 27, 2014				
9	March 30 - April 3	12.3	Fourier Cosine and Sine Series	1,8,12,16,25,35,38
10	April 6 - 10	12.5	Sturm-Liouville Theorem	2,4,6,12
11	April 13 - 17	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 : Tuesday, April 15, 2014, 06:20PM - 08:20PM				
12	April 20 - 24	13.3 13.4	Heat Equation Wave Equation	2,3,6 1,6,9,16,23
13	April 27 - May 1	13.5 14.2	Laplace's Equation Problems in Cylindrical Coordinates	2,4,7,10,14 2,4,9,12
14	May 4 - 8	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 11 - 15	15.3 15.4	Fourier Integral Fourier Transforms	1,4,10 1,6,10,12,16
Final Exam : Tuesday, May 27, 2014, 07:00PM				

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.