King Fahd University of Petroleum and Minerals
Department of Mathematical Sciences
SYLLABUS
Semester II, 2006-2007 (062)
(Coordinator: N.-e. TATAR)

Course #:	**Math 301**
Title:	Methods of Applied Mathematics
Textbook:	Advanced Engineering Mathematics by Zill and Cullen (Second Edition, 1999).

Wk	Date	Sec.	Section Title	Homework
1	Feb 17-21	9.1 9.5 9.7	Vector Functions The Directional Derivative Divergence and Curl	4,12,20,26,28,41 4,8,10,14,22,30 4,14,24,28
2	Feb 24-28	9.8 9.9	Line Integrals Line Integrals Independent of the Path	6,10,16,30 6,15,18,24,28
3	Mar 03-07	9.12 9.13	Green's Theorem Surface Integrals	3,6,18,25 3,10,26,33
4	Mar 10-14	4.1 4.2	Definition of the Laplace transform Inverse Transform, Transforms of Derivatives	4,6,18,25,30,38,40(a) 5,12,16,19,35,37
5	Mar 17-21	4.3 4.4 4.5	Translation Theorems Additional Properties Dirac Delta Function	8,13,20,24,38,47,66 6,16,19(c),23,34,45 4,8,12
6	Mar 24-28	12.1 12.2	Orthogonal Functions Fourier Series	6,12,16,18 4,6,16,20
7	Mar 31-Apr 04	12.3 12.4	Fourier Cosine and Sine Series Complex Fourier Series	4,6,14,16,26,38 2,4,6,11
8	Apr 07-11	12.5	Sturm-Liouville Theorem	2,4,6,12
			Midterm Vacation: Thu-Sun, April 12-15	
9	Apr 16-18	12.6	Bessel and Legendre Series	2,4,6,8,15,20
10	Apr 21-25	13.1 13.3	Separable Partial Differential Equation Heat Equation	1,8,13,16,20,26,28 2,3,6,8,9
11	Apr 28-May 02	13.4 13.5	Wave Equation Laplace's Equation	2,4,6,8,10,16 1,4,7,10,14
12	May 05- 09	14.2 14.3	Problems in Polar and Cylindrical Coordinates Problems in Spherical Coordinates	3,4,9,10 1,5,11,12
13	May 12-16	15.2	Applications of the Laplace Transform	2,4,8,10,14,28
14	May 19-23	15.3	Fourier Integral Theorem,	1,5,10,18
15	May 26-30 **+ June 02**	15.4	Fourier Transforms	2,6,10,12,16

Last day of classes: Sunday, June 03, 2007.
CAS assignements are to be assigned by the instructor.
KFUPM attendance policy will be enforced**. DN grade for 9 or more unexcused absences.**
Final examination shall be comprehensive.