

**King Fahd University of Petroleum and Minerals  
Department of Mathematics and Statistics**

**SYLLABUS MATH 301  
Semester 101  
Coordinator: Yousuf, M.**

<b>Course</b>	Math 301
<b>Title</b>	Methods of Applied Mathematics
<b>Textbook</b>	Advanced Engineering Mathematics by Zill and Cullen (Third Edition, 2006).

Week	Date	Sec.	Material	Homework
1	Sep 25 – 29	9.1 9.5 9.7	Vector Functions The Directional Derivative Divergence and Curl	3,11,20,25,28,41 3,6,9,13,21,30 8,14,23,30
2	Oct 02 – 06	9.8 9.9	Line Integrals Independent of the Path	5,10,16,22,30 7,15,18,23,28
3	Oct 09 – 13	9.12 9.13	Green's Theorem Surface Integrals	2,6,17,25 3,11,26,33
4	Oct 16 – 20	9.14 9.16	Stokes' Theorem Divergence Theorem	3,6,14,17 2,4,11
5	Oct 23 – 27	4.1 4.2	Definition of the Laplace transform Inverse Transform, Transforms of Derivatives	3,5,17, 29,3338 5,13,15,19,35,36
<b>First Major Exam Tuesday, November 02, 2010</b>				
6	Oct 30 – Nov 03	4.3 4.4 4.5	Translation Theorems Additional Properties Dirac Delta Function	8,13,20,24, 47,60,66 5,16,19,23,34, 45 4,8,12
7	Nov 06 – 10	12.1 12.2	Orthogonal Functions Fourier Series	6,12,16,18 4,6,16,20
<b>Eid Al Adha Vacations Nov 11 – 21</b>				
8	Nov 22 – 24	12.3	Fourier Cosine and Sine Series	4,6,14,16,26,38
9	Nov 27 – Dec 01	12.5	Sturm-Liouville Theorem	2,4,6,8,14
<b>Second Major Exam</b>				
10	Dec 04 – 08	12.6	Bessel and Legendre Series	2,4,6,8,10,20
11	Dec 11 – 15	13.1 13.3	Separable Partial Differential Equation Heat Equation	2,10,14,18,20,24,28 2,4,6
12	Dec 18 – 22	13.4 13.5	Wave Equation Laplace's Equation	2,4,6,8,10 2,4,8,10,14
13	Dec 25 – 29	14.2 14.3	Problems in Polar and Cylindrical Coordinates Problems in Spherical Coordinates	2,4,8,10 4,6,12
14	Jan 01 – 05	15.2	Applications of the Laplace Transform	6,8,10,14,27
15	Jan 08 – 12	15.4	Fourier Transforms	6,10,12,16,18
16	Jan 15 – 16		Review or Caching up	

Important Dates and About Mid term Exam Dates

<b>Mid term exam dates are set by the College of Science for coordinated exams.</b>	
Oct 06, 2010	Last day for dropping course(s) without permanent record
Nov 03, 2010	Last day for dropping course(s) with grade of "W" thru <a href="http://regweb.kfupm.edu.sa">http://regweb.kfupm.edu.sa</a>
Dec 12, 2010	Last day for withdrawal from all courses with grade of "W" thru the Registrar Office
Jan 09, 2011	Last day for withdrawal from all courses with grade of "WP/WF" thru the Registrar Office

**Note**

KFUPM attendance policy will be enforced strictly. Final Exam shall be comprehensive.	
<b>Grading Policy:</b> Two Majors 25% each; Quizzes 10%; HW 3%; Attend. 2 %; Final 35%	
<b>Contact Coordinator:</b> Office: 5-403    Tel: 860- 7196    E-mail: <a href="mailto:myousuf@kfupm.edu.sa">myousuf@kfupm.edu.sa</a> webpage <a href="http://faculty.kfupm.edu.sa/math/myousuf">http://faculty.kfupm.edu.sa/math/myousuf</a>	