King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
SYLLABUS MATH 302
Semester 123 (Summer 2013) Class: SUMTW. 10:30 – 11:30. Bldg 59, 1013.

Instructor: Muhammad Yousuf

Course	Math 302			
Title	Engineering Mathematics			
Textbook	Advanced Engineering Mathematics by Zill, Wright and Cullen (Fourth Edition, 2011).			
Bulletin Description	Vector analysis including vector fields, gradient, divergence, curl, line and surface integrals, Gauss' and Stokes' Introduction to complex variables. Vector spaces and subspaces. Linear independence, basis and dimension. So Equations . Orthogonality. Eigenvalues and eigenvectors. Applications to systems of differential equations.			

Week	Date	Sec.	Material	Homework
1	June 08 – 12	7.6	The Vector Spaces ($R^n only$)	1, 3, 22, 23, 26
		8.2	Sytem of Linear Algebraic Equations	1, 7, 12
		8.3	Rank of a Matrix	8, 9, 10, 14
2	June 15 – 19	8.6	Inverse of a Matrix (Using Theorem 8.6.4)	1, 2, 19, 30, 52
		8.8	Eigenvalue Problem	1, 8, 16
		8.10	Orthogonal Matrices	5, 8, 9, 16
		8.12	Diagonalization	2, 14, 28
3	June 22 – 26	8.12	Diagonalization (Continued)	1, 2, 4, 14, 28
		9.1	Vector Functions	2 , 15, 18, 36
		9.5	Directional Derivatives	6, 8, 14, 23
		9.6	Tangent Plane and Normal Lines	6, 16, 34, 38
		9.7	Curl and Divergence	8, 10, 26, 30
First Major Exam Saturday, June 29, 2013				
4	June 29 – July 03	9.8	Line Integral	6, 14, 23, 30
		9.9	Independence of Path	2, 12,15, 22, 25
		9.12	Green's Theorem	1, 2, 17, 20, 29
		9.13	Surface Integrals	1, 2, 6, 18
5	July 06 –10	9.14	Stokes' Theorem	1, 2, 5, 6
		9.16	Divergence Theorem	2, 4, 11, 14
		17.1	Complex Numbers	2, 18, 30, 34
		17.2	Powers and Roots	6, 16, 33, 34
		17.4	Functions of a Complex Variable	8, 10, 14, 21, 32
6	July 13 – 17	17.5	Cauchy Riemann Equations	1, 2, 6, 22
		17.6	Exponential and Log. Function Trigonometric	13, 28, 32, 47
		17.7	and Hyperbolic Functions	8, 10, 16
		18.1	Contour Integrals	3, 7, 9
		18.2	Cauchy- Goursat Theorem	2, 5, 15
Second Major Exam Saturday, July 20, 2013				
7	July 20 – 24	18.4	Cauchy Integral Formula	4, 10, 14
		19.2	Taylor Series	2, 4
		19.3	Laurent Series	2, 6, 21, 26
		19.4	Zeros and Poles	2, 4, 6, 10, 16
		19.5	Residue Theorem	2, 6, 8 22
8	July 27	19.6	Evaluation of Real Integrals	11, 12, 32
Final Exam Comprehensive Sunday July 28, 2013 at 08:30 AM				

Important Dates

June 15	Last day for dropping course(s) without permanent record
July 03	Last day for dropping course(s) with grade of "W" thru **http://regweb.kfupm.edu.sa**
July 10	Last day for withdrawal from all courses with grade of "W" thru the Registrar Office
July 22	Last day for withdrawal from all courses with grade of "WP/WF" thru the Registrar Office

Office: 5-403   **Tel**: 860- 7196   **E-mail**: myousuf@kfupm.edu.sa
webpage http://faculty.kfupm.edu.sa/math/myousuf/ Office Hours: 11:35 – 12:35 PM
Grading Policy: Two Majors each 25%; Quizzes 10%; HW 3%; Attend. 2 %; Final 35%