

**KING FAHD UNIVERSITY OF PETROLEUM & MINERALS**  
**Prep-Year Math Program**  
**SYLLABUS**  
**MATH 002 (072)**

<b>Pre-Requisite</b>	MATH 001
<b>Textbook</b>	College Algebra & Trigonometry by Aufmann/Barker/Nation, 6 <sup>th</sup> Edition, Houghton Mifflin, (2008)
<b>Objectives</b>	The students are expected to develop the comprehension of the course material in English, improve their computational skills and demonstrate writing ability of solutions with logical steps. An emphasis will be given to the understanding of the statement of problem and the mathematical terminology. The medium of instruction will be strictly English from the first <u>day of classes</u> . The course primarily aims at the development of critical thinking among the students through the mathematical concepts studied at the <u>High School level</u> . Word problems will be an important part of the course. MATH 001 will be regarded as a base of this course.

Week#	Date	Text Sections	Topic	Homework Problems
1	Feb. 16 – 20	4.2	Exponential Functions and Their Applications	6,15,24,32,34,36,67
		4.3	Logarithmic Functions and Their Applications	6,12,22,34,42,48,56,62,72,74
2	Feb. 23 – 27	4.4	Properties of logarithms and Logarithmic Scales	12,16,26,31,53,58,62,64,66
		4.5	Exponential and Logarithmic Equations	5,14,20,28,32,36,40,44,47,82
3	Mar. 1 – 5	5.1	Angles and Arcs	6,12,16,20,30,42,54,62,66,70,73,76,79
		5.2	Right Triangle Trigonometry	8,16,20,24,28,38,60,63,68,72
4	Mar. 8 – 12	5.3	Trigonometric Functions of Any Angle	4,14,18,26,29,36,48,55,60,74,78,92
		5.4	Trigonometric Functions of Real Numbers	6,20,34,38,43,48,59,74,80,94,98
<b>Exam I: Saturday, March 15, 2008[4.2 – 5.4]</b>				
5	Mar. 15 – 19	5.5	Graphs of Sine and Cosine Functions	8,28,38,49,56,61,66,68,76,79
		5.6	Graphs of the Other Trigonometric Functions	3,15,22,38,42,46,49,52,56,66,68
6	Mar. 22 – 26	5.7	Graphing Techniques	4,12,16,26,32,38,50,58,62,84
		6.1	Verification of Trigonometric Identities	10,18,22,30,36,41,47,49,54,66,70,76
7	Mar. 29 – Apr. 2	6.2	Sum, Difference and Co-function Identities	8,13,18,22,28,32,36,41,52,66,71,80,88
		6.3	Double and Half Angle Identities	6,16,21,29,36,44,49,72,76,90
8	Apr. 5 – 9	6.4*	Only Functions of the Form $f(x) = a \sin x + b \cos x$	50,56,60,64
		6.5	Inverse Trigonometric Functions	3,12,17,24,32,38,48,52,58,65,70,74,81,99
<b>Midterm Vacation: April 12 - 16</b>				
<b>Midterm Exam: Tuesday, April 22, 2008[4.2 – 6.4]</b>				
9	Apr. 19 – 23	6.6	Trigonometric Equations	5,9,18,41,64,67,69,76,106
10	Apr. 26 – 30	7.3	Vectors	6,15,23,36,39,62,68,74,86,87,90
		8.1	Parabolas	1,13,24,29,31,33,36
11	May 3 – 7	8.2	Ellipses	12,17,32,35,37,40,47,74
		8.3	Hyperbolas	14,20,25,35,38,40,46,49,54,68,72
12	May 10 – 14	9.1	Systems of Linear Equations in Two Variables	7,16,19,21,25,29,34,37,40,51,52,54,62
		9.3	Nonlinear Systems of Equations	3,7,12,15,21,24,29,39,42,54,56
<b>Exam II: Tuesday, May 20, 2008[6.5 – 9.3]</b>				
13	May 17 – 21	10.1	Gaussian Elimination Method	4,8,12,16,20,25,38,41,50,55,56,57
		10.2	The Algebra of Matrices	4,8,15,20,22,28,31,35,72,76
14	May 24 – 28	10.3	The Inverse of a Matrix	2,4,8,10,16,22,41,43,48
15	May 31 – June 4	10.4	Determinants	6,10,16,18,24,28,32,34,37,39,45,49,64

<b>Evaluation Policy</b>	<b>Exam I (Written):</b> 15 points	<b>Midterm Exam (MCQ):</b> 25 points	<b>Exam II (Written):</b> 15 points	<b>Final Exam (Comprehensive &amp; MCQ):</b> 35 points
	Class Work: (Quizzes, Recitation Activities, Homework, Class Attendance, etc): 10 points			
<b>Note # 1:</b> A student will be awarded the GRADE "DN" after missing EIGHT classes without an OFFICIAL excuse. It is the responsibility of the student to keep the record of his absences. Students will have ONLY 6 days to submit their excuses to the prep-year affairs ( 1 <sup>st</sup> warning: 3 absences; 2 <sup>nd</sup> warning: 6 absences; "DN": 8 absences)				
<b>Note # 2:</b> To check your warnings (WEEKLY), Homework Solutions, Exam Locations, and other Math announcements, Please visit: <a href="http://www.kfupm.edu.sa/mathprep">www.kfupm.edu.sa/mathprep</a> .				