

	DAMMAM COMMUNITY COLLEGE Course Syllabus MATH 012 (172)
<u>Program</u>	All programs
<u>Course Title</u>	Preparatory Math II
<u>Course Code</u>	Math012
<u>Status</u>	Preparatory Year Program
<u>Credit Hours</u>	4
<u>Contact Hours</u>	4 hours
<u>Pre-requisites</u>	Math011
<u>Book</u>	Algebra and Trigonometry, by J. Stewart, L. Redlin and S. Watson (Fourth edition)
<u>Instructional Strategies</u>	Lectures, Tutorials(solving KFUPM recitations), Online Homework
<u>Instructor</u>	Dr. M. Noor(coordinating the course) Dr. A. Sadiq, Dr. S. Berrimi, Mr. A. Khattab, Dr. M. Majid
<u>Course Description</u>	<i>This course provides the mathematical foundation for an introductory calculus course. The course covers one to one and inverse function; exponential and logarithmic functions; trigonometric functions; and trigonometric identities and equations; vectors; solving the system of linear and non-linear equations; matrices, their properties and determinant solution of system of linear equations; basic ideas about conics(ellipse, parabola, hyperbola).</i>
<u>Learning Outcomes</u>	<p style="text-align: center;"><u>By the end of this course, students should be able to:</u></p> <p>L1: Apply the concept of exponential, logarithmic, and the trigonometric functions, as well as graphs and the properties of these functions to solve related equations and identities.</p> <p>L2: Be able to solve systems of linear and non-linear equations using various algebraic approaches.</p> <p>L3: Perform operations with vectors analytically and geometrically.</p> <p>L4: Determine conic equations and state their properties.</p> <p>L5: Formulate and analyze mathematical models for a variety of real-world phenomena and use mathematical and technological tools to determine veracity</p>

<u>Week#</u>	<u>Date</u>	<u>Text Sections</u>	<u>Learning Outcomes Topics</u>	<u>Suggested Review Exercises</u>
1	Jan. 21- 25	2.8	One-to-One Functions and Their Inverses Exclude: Example 11	7,8,9,10,11,12,15,16,20,25,60,62,70
		4.1	Exponential Functions Exclude: Pages 370 and 371	2,10,16,20,22,24,38
2	Jan. 28-Feb. 01	4.2	The Natural Exponential Function Exclude: Pages 376 and 377	10,15,16
		4.3	Logarithmic Functions	4,12,16,22,23,28,32,37,42,71,72,54,56
3	Feb. 04 - 08	4.4	Laws of Logarithms	10,11,16,22,39,44,47,48,52,53,65,66
		4.5	Exponential and Logarithmic Equations Exclude: Pages 402 and 403	10,36,37,43,48,52,54,66,78,84,85
4	Feb. 11 - 15	5.1	Angle Measure Exclude: Area of a sector	7,16,25,28,30,32,36,38,42,45,58,60
		5.2	Trigonometry of Right Triangles	8,10,16,18,34,42,47,48,49
5	Feb. 18 - 22	5.3	Trigonometric Functions of Angles Exclude: Areas of Triangles	6,10,11,22,28,38,40,41,44,50,53,55,56
		6.2	Trigonometric Functions of Real Numbers	5,12,18,34,47,49,52,53,59,65,70,75,76,78
Class Test I : [2.8, 4.1 – 5.2] Tuesday 20 Feb. 2018				
6	Feb.25-Mar. 01	6.3	Trigonometric Graphs Exclude: Pages 528-530	15,17,23,31,41,44,47,48,49,50,51,52
		6.4	More Trigonometric Graphs	3,5,8,9,14,16,18,26,28,32,33,51,54,56
MAJOR EXAM I : [2.8, 4.1-5.3, 6.2] TUESDAY 27 Feb. 2018				
7	Mar. 04- 08	6.5 & 5.4	Inverse Trigonometric Functions and Their Graphs	4,5,7,10,23,24,25,31,34,40,44,45,48
		7.1	Trigonometric Identities	3,7,11,12,14,15,20,23,26,27,34,41,42,65,71,74,75,83
8	Mar. 11- 15	7.2	Addition and Subtraction Formulas	6,8,12,15,17,18,19,20,25,33,34,40
		7.3	Double-Angle, Half-Angle Exclude: 1-Product to sum formulas 2-Sum to product formulas	3,8,11,15,19,22,29,30,33,34,39,41,43,46,51,53,54,69,72
9	Mar. 18- 22	7.4	Basic Trigonometric Equations	27,33,37,43,45,51,54,55,56
		7.5	More Trigonometric Equations	3,11,14,17,21,24,26,31,33,39,42,43,44
10	Mar. 25- 29	9.1	Vectors in Two Dimensions Exclude: Pages 671 and 672	7,11,16,22,28,33,39,46,51,52
		9.2	The Dot Product Up to example 3	7,10,17,20,21,23,39,42
Class Test II : [6.3 – 7.5] Tuesday 27 Mar., 2018				
11	Apr. 01-05	10.1	Systems of Linear Equations in Two Variables	7,12,13,17,35,40,50,55
		10.4	Systems of Nonlinear Equations	3,8,14,26,29,32
MAJOR EXAM II [6.3 – 9.2] WEDNESDAY, 04 April, 2018				
12	Apr. 08-12	11.1	Matrices and System of Linear Equations Exclude: Example 8	12,17,20,23,26,33,38,39,56
		11.2	The Algebra of Matrices Exclude: Pages 787 and 788	12,14,15,22,33,36,45,46,50
13	Apr. 15-19	11.3	Inverses of Matrices and Matrix Equations Exclude: Example 7	
		11.4	Determinants Exclude: 1- Cramer's Rule 2-Area of triangles using det. In page 810	10,12,15,19,23,28,37,63
14	Apr. 22-26	12.1	Parabolas with shifts Exclude: Page 831	5-10,35,38,43,46,47,48,50,56
		12.2	Ellipses with shifts	5-8,9,16,20,27,30,33
15	Apr. 29-May 03	12.3	Hyperbolas with shifts	5-8,16,18,21,27,28,31,37,40,43,45,49
			Review	
FINAL EXAM : [4.1 – 12.3]				

	<u>Method</u>	<u>Learning Outcomes to be covered</u>	<u>Period</u>	<u>Type</u>	<u>Percentage</u>
<u>Course Assessment</u>	<u>Class tests</u>	Class test #1: Learning outcome L1 covered represented by Sec. 2.8 and Sec. 4.1 to Sec.5.2	Tuesday 20th Feb., 2018	Written	8 %
		Class test # 2: Learning outcomes L1-L2 covered represented by Sec.6.3 to Sec.7.5	Tuesday 27th Mar., 2018	Written	8 %
	<u>Attendance</u>				2 %
	<u>Homework</u>	Online homework assignment every week			6 %
	<u>Major Exam I</u>	Material section 2.8, from section 4.1 to section 5.3 and section 6.2	M.C.Q's		20 %
	<u>Major Exam II</u>	Material from section 6.3 to section 9.2	M.C.Q's		20 %
	<u>Final Exam</u>	Material from Sec. 2.8 to Sec. 12.3, All sections as listed in the syllabus, "COMPREHENSIVE".	M.C.Q's		36 %
<u>Reference</u>	Electronic Materials, Web Sites etc http://www.kfupm.edu.sa/sites/pypmath/ http://www.kfupm.edu.sa/sites/pypmath/default.aspx#				
<u>Exam Rules</u>	<ul style="list-style-type: none"> • Questions of all exams are based on examples, syllabus homework problems in addition to online home works, recitations, and exercises from the textbook. • No makeup for major exams or Class Tests will be given under any circumstance. When a student misses an exam for a legitimate reason (such as medical emergencies), his mark for this exam will be determined based on the Department's policy. Furthermore, the student must submit an official excuse, within one week of the missed exam to the student affairs office. • No student will be allowed to sit for a final examination after the lapse of 30 minutes from the beginning of the examination. Also, no student will be allowed to leave the examination venue less than 30 minutes after the beginning of the examination. 				
<u>Academic Integrity</u>	<ul style="list-style-type: none"> • <i>Cheating</i> is an act of dishonesty and faculty members and students must maintain trust and honesty to ensure and protect the integrity of grades. • All academic work or requirements assigned to a student must be carried out by him without any unauthorized aid of any kind. If any instance of dishonesty by a student in homework assignments or any other requirements of the course is discovered the instructor will take the appropriate action. • <i>Cheating</i> or attempting to cheat, or violating instructions and examination regulations shall render the offender subject to punishment in accordance with Student Disciplinary Rules as issued by the College Council • Any Talking with others or looking into their papers during exam time is presumed an attempt of cheating and the above mentioned rule will be applied 				
<u>Attendance</u>	<ul style="list-style-type: none"> • If you are late by 2 minutes you will be considered absent . Door might be locked on time. • A student will be awarded the GRADE "DN" after missing 12 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 student affairs office. 				
<u>Class Rules</u>	<ul style="list-style-type: none"> • Food and drink are not allowed in the class. • Mobiles should be switched off or be in silent mode during the lecture time. 				