

**KING FAHD UNIVERSITY OF PETROLEUM & MINERALS**  
**College of Applied & Supporting Studies**  
**Prep-Year Math Program**  
**SYLLABUS**  
**MATH001 - TERM 181**

Week	Date	Sec.	Topic	Suggested Review Exercises
1	Sep. 02 Sep. 06	Rev	Review of Some Arithmetic Operations	Recitation Paper
		P.2	The Real Numbers	10,17,28,32,38,40,44,46,59,60,66,70, 76,79,81,82
2	Sep. 09 Sep. 13	P.2	The Real Numbers .....continued	10,17,28,32,38,40,44,46,59,60,66,70, 76,79,81,82
		P.3	Integer Exponents and Scientific Notation	11,13,18,24,28,30,34,36,38,48
3	Sep. 16 Sep. 20	P.4	Rational Exponents and Radicals	10,17,16,18,20,26,30,36,39,43,48,52,54,57,62,67,78 84,87,90
		P.5	Algebraic Expressions	13,18,22,34,38,44,46,58,62,66,74,76,78,80,86
<b>SAUDI NATIONAL HOLIDAY: Sunday, September 23<sup>RD</sup> 2018</b>				
4	Sep. 24 Sep. 27	P.6	Factoring	10,14,20,22,30,36,42,46,48,52,60,90,100,108,114
5	Sep. 29 Oct. 04	P.7	Rational Expressions	12,13,16,22,24,32,33,36,51,56,58,64,68,70,72,74,77 ,82,86,90,94
		P.8	Solving Basic Equations	10,12,14,28,36,40,49,52,54,66,70,76,77,85,98,100
<b>MAJOR EXAM I: TUESDAY, 09<sup>TH</sup> OCTOBER 2018 [Chapter P]</b>				
6	Oct. 07 Oct. 11	1.1	The Coordinate plane	28,30,31,39,42,44,45,46,48
		1.2	Graphs of Equations in Two Variables; Circles	10,14,18,24,29,30,32,36,40,48,50,56,58,70,74,76,78 ,79,80,82,84,90,94,96,97,98,100,102,104
7	Oct. 14 Oct. 18	1.3	Lines	16,18,22,24,26,30,34,36,38,39,40,42,44,46,48,50,62 ,64,70,74,78,86
		1.4	Solving Quadratic Equations <sup>(1)</sup>	12,13,16,20,26,38,48,54,56,61,62,65,66,67,68,70,85 (Sec. 1.4), 70, 72 (Sec. 1.5)
8	Oct. 21 Oct. 25	1.5	Complex Numbers	
		1.6	Solving Other Types of Equations <sup>(2)</sup>	6,14,18,22,24,28,32,36,38,40,42,44,46,48,50,54,56, 58,60,62,66,68,69,70,71
9	Oct. 28 Nov. 01	1.7	Solving Inequalities <sup>(3)</sup>	22,32,38,42,48,51,54,56,60,61,64,68,70
		1.8	Absolute Value Equations and Inequalities <sup>(4)</sup>	10,12,20,22,28,30,36,46,48,52,54,56
10	Nov. 04 Nov. 08	2.1	Functions	20,22,30,34,36,38,40,44,48,49,51,52,54,56,58,60,62 ,64,66,68,72
		2.2 2.3	Graphs of Functions; Getting Information from the Graph of a Function <sup>(5)</sup>	6,10,16,8,20,22,24,26,28,36,40,45,50,52,54,56,59,6 0,64,66,68 (Sec. 2.2), 32,34,35 (Sec. 2.3)
		2.5	Linear Functions	7,10,12,13,15,17,19,24,27,28,29
11	Nov. 11 Nov. 15	2.6	Transformation of Functions	8,10,12,14,16,18,19,21,22,24,40,48,52,54,58,60,62, 66,68,70,72,75,85,86,88,89, 90,93
		<b>MAJOR EXAM II: SUNDAY, 18<sup>TH</sup> NOVEMBER 2018 [1.1 – 2.5]</b>		
12	Nov. 18 Nov. 22	2.7	Combining Functions <sup>(6)</sup>	5,6,14,15,17,18,19,29,44,54,55,56,59,60,63,64,65,7 0,73,74
		3.1	Quadratic Functions <sup>(7)</sup>	6,12,16,20,27,29,37,42,48,51
13	Nov. 25 Nov. 29	3.3	Dividing Polynomials	5,6,11,13,17,26,29,35,37,43,44
		3.4	Real Zeros of Polynomials <sup>(8)</sup>	5,6,12,13,15,21,26,29,34,39,42,45,48,50,55,60,63,6 6,68
14	Dec. 02 Dec. 06	3.2	Polynomial Functions and their Graphs <sup>(9)</sup>	3,4,9,10,18,20,24,31,34,36,38,45,50,53,55,57,60,62, 63,65,68,70
		3.5	Complex Zeros and Fundamental Theorem of Algebra	7,9,13,17,18,23,31,37,41,45,47,58,64,66,67,69,72
15	Dec. 09 Dec. 13	3.6	Rational Functions <sup>(10)</sup>	10,12,15,17,21,24,26,32,33,35,45,53,55,59,63,67
		Rev	Review for FINAL EXAM	
<b>FINAL EXAM: WEDNESDAY, 19<sup>TH</sup> DECEMBER 2018 [P.2 – 3.6]</b>				

- (1) Sec. 1.4: Exclude modeling with quadratic equations (Examples 5-7).
- (2) Sec. 1.6: Exclude Examples 8 & 9.
- (3) Sec. 1.7: Exclude Examples 7 & 8.
- (4) Sec. 1.8: Exclude Example 5.
- (5) (a) Sec. 2.2 exclude Example 7.  
(b) Sec. 2.3 includes: *Values of a function; Domain and Range & Increasing and Decreasing functions.*
- (6) Sec. 2.7: Exclude Example 7.
- (7) Sec. 3.1: Exclude Example 5 & 6.
- (8) Sec. 3.4: Exclude: 1. Upper and lower bounds Theorem,  
2. Examples 8 & 9.
- (9) Sec. 3.2: Exclude Real Maxima and Minima of Polynomials
- (10) Sec. 3.6: Include only the following:
  1. Definitions and examples on how to find the asymptotes.
  2. The graph of the rational functions of the form  $f(x) = \frac{ax+b}{cx+d}$ .

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**Textbook:** Algebra and Trigonometry, by J.Stewart, L.Redlin and S.Watson (Fourth edition 2014)

**Objectives:**

Upon completion of Prep-Year Math001 course, a student should be able to:

1. Perform basic algebraic operations
2. Recognize the concepts of functions, graphs and properties of functions and solve related equations.
3. Use algebraic, numerical, and graphical processes to manipulate and analyze equations, inequalities, and functional relationships.
4. Derive a correct solution for a given mathematical problem and interpret the outcome correctly

**Note:** The medium of instruction will be strictly ENGLISH from the first day of classes.

**Grading Policy:**

1. Exam I: 20% a common multiple choice exam.
2. Exam II: 20% a common multiple choice exam.
3. Final Exam: 36% a comprehensive common multiple choice exam.
4. Class Work: 18% based on a minimum of 5 quizzes (10%), 1 class tests (8%)  
*Any quiz or test under class activity should be of written type and not of a multiple-choice type.*
5. Online homework (6%).

**Unexcused absence:**

*Starting from the fifth time being absent,  $\frac{1}{2}$  point will be deducted for each absence from the total grade.*

**Exam Questions:**

The questions of the common exams are based on the examples, homework problems, recitation problems and the exercises of the textbook.

**Missing an Exam:**

No makeup exam will be given under any circumstance. When a student misses Exam I or Exam II for a legitimate reason (such as medical emergencies), his grade for this exam will be determined based on the Department's policy. Furthermore, the student must provide an official excuse within one week of the missed exam.

**Attendance:**

A student will be awarded the GRADE "DN" after missing 8 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)

**Website:** <http://www.kfupm.edu.sa/sites/pypmath/>