KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
College of General Studies, Prep-Year Math Program
SYLLABUS
MATH001 – TERM 261

Week	Date	Sec.	Topic
1	Aug. 19 - Aug. 20	P.2	Real Numbers
2	Aug. 23 - Aug. 27	P.3	Integer Exponents and Scientific Notation
		P.4	Rational Exponents and Radicals
		P.5	Algebraic Expressions
3	Aug. 30 - Sep. 03	P.6	Factoring
		P.7	Rational Expressions
		P.8	Solving Basic Equations
4	Sep. 06 - Sep. 10	1.1	The Coordinate plane
		1.2	Graphs of Equations in Two Variables; Circles
5	Sep. 13 - Sep. 17	1.3	Lines
		1.4	Solving Quadratic Equations
6	Sep. 20 - Sep. 22	1.5	Complex Numbers
		SAUDI NATIONAL DAY: 23RD – 24TH SEPTEMBER 2026	
7	Sep. 27 - Oct. 01	1.6	Solving Other Types of Equations
		1.7	Solving Inequalities
M A J O R E X A M I : WEDNESDAY SEPTEMBER 30, 2026 [P.2 – 1.6]			
8	Oct. 04 - Oct. 08	1.8	Solving Absolute Value Equations and Inequalities
		2.1	Functions
9	Oct. 11 - Oct. 15	2.2 2.3	Graphs of Functions; Getting Information from the Graph of a Function
		2.5	Linear Functions
10	Oct. 18 - Oct. 19	2.6	Transformations of Functions
		MID–TERM BREAK: 20TH – 22ND OCTOBER 2026	
11	Oct. 25 - Oct. 29	2.7	Combining Functions
		3.1	Quadratic Functions
12	Nov. 01 - Nov. 05	3.3	Dividing Polynomials
		3.4	Real Zeros of Polynomials
13	Nov. 08 - Nov. 12	3.2	Polynomial Functions and Their Graphs
		3.5	Complex Zeros and the Fundamental Theorem of Algebra
M A J O R E X A M II : WEDNESDAY NOVEMBER 11, 2026 [1.7 – 3.3]			
14	Nov. 15 - Nov. 19	3.6	Rational Functions
		2.8	One-to-One Functions and Their Inverses
15	Nov. 24 - Nov. 26	**AUTUMN BREAK: 22ND – 23RD NOVEMBER 2026**	
		4.1 4.2	4.1: Exponential Functions 4.2: Natural Exponential Function
16	Nov. 29 - Dec. 03	4.3	Logarithmic Functions
		4.4	Laws of Logarithms
17	Dec. 06 - Dec. 10	4.5	Exponential and Logarithmic Equations
			Review for Final Exam
F I N A L E X A M : TO BE ANNOUNCED [P.2 – 4.5]			

MATH 001 – COURSE SYLLABUS

College Algebra and Trigonometry I

COURSE DESCRIPTION

The first course in the Preparatory Year Math Program is Math 001 (College Algebra and Trigonometry I) which contains standard topics of college algebra.

The program aims to:

1. Reinforce and Review the student's knowledge of mathematical and analytical skills through the medium of English.
2. Develop student's writing skills in Math through interrelated logical procedures.
3. Provide students with the ability to use their understanding to produce and communicate mathematics.
4. Prepare students to apply Math skills in advanced degree programs.
5. Prepare students to acquire a solid foundation in algebra and trigonometry.
6. Shape students' Mathematics study habits by emphasizing useful Math study habits and skills that will facilitate their academic success at KFUPM.

The program is designed such that students are continuously involved in lectures, class work, and self-learning activities, mainly solving problems during the recitation classes and through weekly online assignments and knowledge tests to enable them to master course topics through a continuous cycle of mastery, knowledge retention, and positive feedback. Peer tutoring is an essential component of the learning process, weekly training in-person sessions and online sessions are conducted in which students can enhance their knowledge and have the opportunity to share and exchange ideas with fellow students and their instructors. Moreover, students can benefit from resources made available through the LMS (Blackboard) by their instructors and the Prep-Math Program.

LEARNING OUTCOMES

Upon completion of the Prep-Year Math 001 course, a student should be able to:

1. Apply algebraic operations to real and complex numbers, algebraic expressions, and functions.
2. Solve equations and inequalities, including linear, nonlinear, absolute value, exponential, and logarithmic forms.
3. Analyze functions and their properties, including domain, range, transformations, composition, and inverse functions.
4. Sketch and interpret graphs of equations and functions in the coordinate plane, including linear, quadratic, exponential, logarithmic, and inverse functions.
5. Determine and apply equations of lines and circles using their geometric and algebraic properties.
6. Apply the Fundamental Theorem of Algebra and related results to analyze and solve polynomial equations.
7. Translate and solve mathematical models of real-world problems, including applications involving algebraic, exponential, and logarithmic relationships.

SKILLS AND VALUES

1. Critical Thinking
2. Problem-Solving
3. Team-Work
4. E-Learning
5. Self-Confidence
6. Cooperation

STUDY RESOURCES

1. Textbook Examples and Exercises
2. Lecture Notes
3. Home-Work (ALEKS) through Blackboard.
4. Old Exam Questions
5. Online video courses

Important study recourses are available on the Prep-Math Program Link on Blackboard (BB)

RULES AND REGULATIONS

Attendance

- Every 5 registered late will convert into 1 absent.
- A student is registered absent in a class if he joins after 10 minutes or he did not attend.
- A student is registered as late in a class if he joins within 10 minutes from the start of the class time.
- A student will receive 1st warning if he has 3 unexcused absences.
- A student will receive 2nd warning if he has 6 unexcused absences.

- A student will be awarded a 'DN' grade if he reaches 8 unexcused absences.
- A student will be awarded a 'DN' grade if he reaches 11 total absences.
- Starting from the fifth absence, 1/2 point will be deducted from the student's total grade for each absence onward.
- It's the responsibility of the student to keep a record of his absences. Students will have only one week to submit their official excuses to the office of the Assistant Dean, Prep Year Affairs.

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. "The same applies to the quizzes and class Tests".

Change of Section

- Change of section is NOT allowed.

Passing and Failing Rules

- The passing grade is "D"

Lectures and Recitation

Three lectures and one recitation per week (50 minutes). In recitation class, students should interact with their instructor to solve the recitation questions related to the material covered in lectures.

GRADES AND ASSESSMENT POLICY

SR#	MATH 001 ASSESSMENT AND GRADES POLICY	TOTAL WEIGHT
1	CLASS-WORK • 5 written quizzes (15 points) • 1 written class test (5 points) • Classwork average for each section = x x = average (Exam1 & Exam 2)/20	20%
2	Active Learning Activities	3%
3	Online Homework on ALEKS	7%
4	Major Exam 1 (20 MCQ)	20%
5	Major Exam II (20 MCQ)	20%
6	Final Comprehensive Exam (30 MCQ)	30%

SERVICES AND EVENTS

- Office hours
- Online video lecturers
- Help Sessions
- Student Peer program
- RAM Contest (Real-life Application in Mathematics)
- Factorization Contest
- 1 MBA Contest 2024 (1 Minute Basic Algebra)

TEXTBOOK

Algebra Trigonometry, Stewart, Redlin and Watson, Fourth edition. An online textbook version is available in ALEKS.