Math 2303: Concepts in Algebra
Course Syllabus

Section Number: This information applies to all face-to-face and online sections

Perquisites: MATH 1312 or 1313. May not apply to course or gpa requirements for a major or minor in natural sciences and mathematics.   Mathematical systems: classical and abstract algebra, systems of numeration, and basic number theory.

Textbook: The learning materials for Math 2303, including the textbook, are found online on the CourseWare site at www.casa.uh.edu. Students are required to purchase an access code at the Book Store to access the course learning materials.

The information contained in this class outline is an abbreviated description of the course. Additional important information is contained in the departmental polices statement at: http://www.math.uh.edu/~dog/13xxPolices.doc , and your instructor's personal webpage for this course. Even though this class is a 23XX class it still follows the 13xx polices. The exceptions for Math 2303 does not have a perquisite test 1 and does not take a Course policy Quiz. Students are responsible for knowing all of this information.

Learning Objectives

A student who completes this course should be proficient in the following topics: a short history of written numerals, systems of measurement, the real number field and its properties, basic number theory of primes, divisors and multiples, expressions and equations, the definition of a function, linear and quadratic functions and an introduction to abstract algebraic systems.

A student in this class is expected to complete the following assignments:

3 regular exams
Homework assignments over most of the sections covered in class.
Online Quizzes that will be available on the CASA website under the Online Assignment Tab.
Poppers – in class quizzes that will start the 3rd week of classes.
1 final exam (student can opt –out of the final exam if after all course work is finished except the final. The student must have a grade of 80 or higher. The student would then qualify for the opt-out).

Homework	10%	
Poppers	10%	
Quizzes	10%	
3 Semester Tests	48%	(16% each)
Final	22%	
Total	100%	

List of discussion/lecture topics

Chapter 1 Counting and Measuring
Section 1.1 Systems of Numerations and Additive Systems
Section 1.3 Place Value Systems of Numeration
Section 1.4 Place Value Systems in Other Bases
Section 1.5 Arithmetic in Other Bases
Section 1.6 Systems of Measurement
Section 1.7 Dimensional Analysis

Chapter 2 Real Numbers and their Properties
Section 2.1 Introduction to Number Theory
Section 2.2 Integers
Section 2.3 Rational Numbers
Section 2.4 Exponents and Scientific Notation
Section 2.5 Irrational Numbers
Section 2.6 Radicals
Section 2.7 Real Numbers
Section 2.8 Properties of Real Number Operations

Chapter 3 Equations and Inequalities
Section 3.1: Variables, Expressions and the Order of Operations Rule
Section 3.2: Equations and Inequalities
Section 3.3: Solving Equations
Section 3.4: Using a Scientific Calculator (* Self-Study, not covered in class)
Section 3.5: Using Formulas
Section 3.6: Solving Problems using Equations
Section 3.7: Solving Inequalities

Chapter 4 Graphing Lines and Inequalities
Section 4.1: Graphing Linear Equations
Section 4.2: Writing Equations of Lines

Chapter 5 Functions
Section 5.1: Functions, Domains and Ranges
Section 5.2: Linear Functions and Modeling
Section 5.3: Factoring
Section 5.4: Solving Quadratic Equations by Factoring
Section 5.5: Solving Quadratic Equations using Square Roots
Section 5.6: Solving Quadratic Equations using the Quadratic Formula
Section 5.7: Solving Problems using a Quadratic Equation
Section 5.8: Graphing Quadratic Functions

Chapter 6 Systems of Equations and Systems of Inequalities
Section 6.1: Systems of Equations
Section 6.2: Solving Systems of Equations by Substitution
Section 6.3: Solving Systems of Equations by Elimination and Solving Problems using Systems of Equations
Section 6.4: Solving Systems of Inequalities (*Optional)

Whenever possible, and in accordance with 504/ADA guidelines, the University of Houston will attempt to provide reasonable academic accommodations to students who request and require them. Please call 713-743-5400 for more assistance.