

INTERMEDIATE ALGEBRA

MATH 1310

Course Description:

This course presents properties of real numbers, linear equations and graphing, systems of equations, linear inequalities, quadratic equations, polynomials, algebraic fractions, exponents, and radicals and logarithms. **3 credits**

Prerequisites:

ACT Math at least 19, Math SAT at least 460, or Math SAT2016 at least 500 within the last 2 years; or Accuplacer or COMPASS score at least 3 within the last 2 years; or MATH 1000 with C- or better within the last 2 years; or MATH 1310 within last 2 years

Major Topics:

1) Equations and Inequalities in One Variable

- a. Linear Equations in One Variable
- b. Linear Inequalities in One Variable
- c. Compound Inequalities; Absolute Value Equations and Inequalities
- d. Formulas and Problem Solving

2) Graphs and Functions

- a. The Rectangular Coordinate System and Graphing
- b. Relations and Functions
- c. Function Notation and Applications
- d. Graphs of Linear Functions
- e. Linear Equations in Two Variables
- f. Linear Inequalities in Two Variables

3) Systems of Linear Equations and Inequalities

- a. Systems of Linear Equations in Two Variables
- b. Problem Solving with Systems of Linear Equations
- c. Systems of Linear Inequalities in Two Variables

4) Polynomial Expressions and Functions

- a. Rules of Exponents
- b. Introduction to Polynomial Functions
- c. Adding, Subtracting, Multiplying, and Dividing Polynomials

5) Factoring

- a. Greatest Common Factor and Factor by Grouping
- b. Factoring Trinomials
- c. Special-Case Factoring and a General Factoring Strategy
- d. Polynomial Equations and Models

6) Rational Expressions, Equations, and Functions

- a. Introduction to Rational Expressions and Functions
- b. Multiplying and Dividing Rational Expressions
- c. Adding and Subtracting Rational Expressions
- d. Complex Rational Expressions
- e. Rational Equations and Models

7) Radicals and Rational Exponents

- a. Radical Expressions
- b. Radical Functions
- c. Rational Exponents and Simplifying Radical Expressions
- d. Operations with Radicals
- e. Radical Equations and Models
- f. Complex Numbers

8) Quadratic Equations and Functions

- a. Solving Quadratic Equations
- b. Applications and Modeling of Quadratic Functions

9) Exponential and Logarithmic Functions and Equations

- a. Exponential Functions
- b. Logarithmic Functions
- c. Properties of Logarithmic

Methods:

Class meets once a week for 75 minutes. In class, the teacher will cover important concepts, work especially difficult problems, and guide students through the work that will be done each week. The teacher will discuss study strategies and help students to avoid common errors. Students are responsible for 3 flexible hours in the Math Lab, with Teaching Assistants, using Math Lab software. All homework, quizzes, tests and a cumulative final exam will be done on the UNO Math Lab software.

Student Role:

Students will be expected to attend weekly classes, participate in class, do all homework, quizzes, and tests. Students are responsible each week for 3 flexible hours in the Math Lab working with Teaching Assistants doing homework, quizzes, and tests.

Textbook:

Intermediate Algebra (Math 1310) Class Notes Packaged with MYMATHLAB Access Code, Trigstad Packaging