

## Math 0310 Intermediate Algebra Course Document

### Credit Hours

Three semester hours

### Transferability

Most Texas colleges do not consider this course to be college level. If you are concerned about the transferability of this course you should contact the counseling center or the college / university to which you will transfer.

### Prerequisites

Math 0308 - Introductory Algebra or Placement Testing or Instructor / Departmental Approval

### Course Description

Special products and factoring, rational expressions and equations, rational exponents, radicals, radical equations, quadratic equations and complex numbers, an introduction to the function concept and graphing, equations of lines and linear systems.

This course carries institutional credit but will not transfer and will not be used to meet degree requirements.

### Materials

Required Textbook

### Learning Outcomes

- Sketch graphs of linear relations and determine a linear equation in 2 variables given pertinent information.
- Solve applications using systems of linear equations in 2 variables.
- Solve linear inequalities in 1 and 2 variables.
- Recognize functions defined by sets of ordered pairs, graphs, equations and apply function notation to applications.
- Factor higher degree polynomials.
- Perform operations and solve equations and applications involving rational expression.
- Perform operations and solve equations involving radicals and rational exponents.
- Perform operations on complex numbers.
- Solve quadratic equations and applications using methods including the quadratic formula, factoring, completing the square and extracting roots. Graph quadratic functions.

## Textbook Sections

Beginning & Intermediate Algebra, 4/E  
Elayn Martin-Gay  
Publisher: Prentice Hall, Copyright: 2009  
ISBN: 0136007317

2.8 Solving Linear Inequalities

3.1 Reading Graphs / Rectangular Coordinate System

3.2 Graphing Linear Equations

3.3 Intercepts

3.4 Slope and Rate of Change, Integrated Review

3.5 Equations of Lines

3.6 Functions

4.1 Solving Systems of Linear Equations by Graphing

4.2 Solving Systems by Substitution

4.3 Solving Systems by Addition, Integrated Review

4.5 Systems of Linear Equations and Problem Solving

5.2 Polynomial Functions Adding/ Subtracting

6.1 Greatest Common Factor / Factoring by Grouping

6.2 Factoring Trinomials

6.3 Factoring Trinomials

6.4 Factoring Trinomials

6.5 Factoring Binomials, Integrated Review

6.6 Solving Quadratic Equations by Factoring

6.7 Quadratic Equations and Problem Solving

7.1 Rational Functions and Simplifying

7.2 Multiplying and Dividing Rational Expressions

7.3 Adding and Subtracting Rational Expressions

7.4 Adding and Subtracting Rational Expressions

7.5 Solving Equations Containing Rational Expressions

7.6 Proportion and Problem

7.7 Simplifying Complex Fractions

8.4 Variation and Problem Solving

## 9.4 Linear Inequalities in Two Variables

### 10.1 Radicals and Radical Functions

### 10.2 Rational Exponents

### 10.3 Simplifying Radical Expressions

### 10.4 Adding, Subtracting, Multiplying Radical Exp.

### 10.5 Rationalizing

### 10.6 Radical Equations and Problem Solving

### 10.7 Complex Numbers

### 11.1 Completing the Square

### 11.2 Quadratic Formula

### 11.3 Solving Equations by Using Quadratic Methods

### 11.5 Quadratic Functions and Their Graphs

### 11.6 Further Graphing of Quadratic Functions