

# MATH 15300 COLLEGE ALGEBRA

## List of Course Topics

**TEXTBOOK:** Swokowski & Cole, *Algebra & Trigonometry with Analytic Geometry*, Classic 12th Edition

### **Chapter 1: Fundamental Concepts of Algebra**

- 1.1 Real Numbers
- 1.2 Exponents and Radicals
- 1.3 Algebraic Expressions
- 1.4 Fractional Expressions

### **Chapter 2: Equations and Inequalities**

- 2.1 Equations
- 2.2 Applied Problems
- 2.3 Quadratic Equations
- 2.4 Complex Numbers
- 2.5 Other Types of Equations
- 2.6 Inequalities
- 2.7 More on Inequalities

### **Chapter 3: Functions and Graphs**

- 3.1 Rectangular Coordinate Systems
- 3.2 Graphs of Equations
- 3.3 Lines
- 3.4 Definition of Function
- 3.5 Graphs of Functions
- 3.6 Quadratic Functions
- 3.7 Operations on Functions

### **Chapter 4: Polynomial and Rational Functions**

- 4.1 Polynomial Functions of Degree Greater Than 2
- 4.2 Properties of Division

### **Chapter 5: Exponential and Logarithmic Functions**

- 5.1 Inverse Functions
- 5.2 Exponential Functions
- 5.3 The Natural Exponential Function
- 5.4 Logarithmic Functions
- 5.5 Properties of Logarithms
- 5.6 Exponential and Logarithmic Equations