Course Outline

Chapter 3 GRAPHS AND FUNCTIONS

3.1 The Rectangular Coordinate System
3.2 Graphs of Equations
3.3 Slope and Graphs of Linear Equations
3.4 Equations of Lines
3.5 Graphs of Linear Inequalities
3.6 Relations and Functions
3.7 Graphs of Functions

Chapter 5 POLYNOMIALS AND FACTORING

5.1 Integer Exponents and Scientific Notation
5.2 Adding and Subtracting Polynomials
5.3 Multiplying Polynomials
5.4 Factoring Polynomials by Grouping and Special Forms
5.5 Factoring Trinomials
5.6 Solving Polynomial Equations by Factoring

Chapter 2 LINEAR EQUATIONS AND INEQUALITIES

2.5 Absolute Value Equations and Inequalities

Chapter 6 RATIONAL EXPRESSIONS AND EQUATIONS

6.1 Rational Expressions and Functions
6.2 Multiplying and Dividing Rational Expressions
6.3 Adding and Subtracting Rational Expressions
6.4 Complex Fractions
6.5 Dividing Polynomials and Synthetic Division **
6.6 Solving Rational Equations
6.7 Applications and Variation
Chapter 7 RADICALS AND COMPLEX NUMBERS

7.1 Radicals and Rational Exponents
7.2 Simplifying Radical Expressions
7.3 Adding and Subtracting Rational Expressions
7.4 Multiplying and Dividing Radical Expressions
7.5 Radical Equations and Applications
7.6 Complex Numbers

Chapter 8 QUADRATIC EQUATIONS AND INEQUALITIES

8.1 Solving Quadratic Equations: Factoring and Special Forms
8.2 Completing the Square
8.3 The Quadratic Formula
8.4 Graphs of Quadratic Functions
8.5 Applications of Quadratic Equations

Chapter 11 SEQUENCES, SERIES AND THE BINOMIAL THEOREM

11.1 Sequences and Series
11.4 The Binomial Theorem

NOTES:
1. Use of calculators and calculators with Computer Algebra System are up to the discretion of each instructor.
2. Items with ** are optional.
3. Chapter 3 (Graphs and Functions) and Chapter 5 (Polynomials and Factoring) should be a review; so go over them quickly.
4. Be sure to cover 'Equations in the Quadratic Form’ found in Examples 4 and 5 of Section 8.1.
5. Stress word problems.
6. Section 6.5 will be covered in Math 22.
7. The Final Exam must consist of questions that cover the following topics.
Chapter 3  The distance formula
          Graphing an equation by hand
          Finding x- and y- intercepts of the graph of an equation
          Finding the slope of a line
          Evaluating functions
          Graphing a function
          Finding the domain and range of a function

Chapter 5  Operations of polynomials
          Factoring polynomials completely
          Solving a polynomial equation by factoring
          Solving absolute value equations and inequalities (Section 1.5)

Chapter 6  Operations of rational expressions
          Solving an equation with rational expressions

Chapter 7  Simplifying expressions with integer and rational exponents
          Operations involving radical expressions
          Solving equations involving radicals

Chapter 8  Solving quadratic equations (all techniques)
          Applications involving quadratic equations

Chapter 11 Find the nth term of a sequence
              Sigma notation and series

August 2007 (over)