Learning Objectives: The primary goal is for students to build a good conceptual understanding of functions, through multiple perspectives, such as expressions, graphs, tables, and verbal descriptions. Certain types of functions, such as linear, quadratic, rational, exponential, inverse, and logarithmic are developed, and the requisite algebraic skill sets are constructed.


Text: Algebra & Trigonometry 5th edition by Robert Blitzer

Prerequisite: Completing Intermediate Algebra (MAT 1033) with a grade of a C or better OR an adequate score on the placement test.

Use of Calculators: Graphing calculators are always prohibited. The use of a scientific calculator, preferably the TI – 30XSII, is permitted, including on exams.

Course Organization: There must be a cumulative final exam, worth 25% of the overall course grade. In addition to the final exam, there needs to be at least three tests. Weekly homework and quizzes should be done in MyLabsPlus, together constituting no more than 20% of the overall course grade.

Week 1-Polynomials (P.4), Operations on Polynomials (P.4), Factoring (P.5), Rational Expressions (P.6), Rational Exponents (P.3)

Week 2-Solving Linear Equations (1.2), Complex Numbers (1.4) Solving Quadratic Equations (1.5), Equations Quadratic in Form (1.6), Factorable Equations (1.6), Radical Equations (1.6)

Week 3-Coordinate Systems (1.1), Graphs of Equations (1.1), Intercepts (1.1), Slopes (2.3), Parallel and Perpendicular Lines (2.3), Distance and Midpoint Formulas (2.4), Circles (2.8)

Week 4-Interval Notation (1.7), Functions (2.1), Domain and Range (2.1), Functional Notation (2.1), Find Sum/Difference/Product/Quotient (2.6), Graphs of Functions (2.1)

Week 5-Absolute Value (P.1), Radicals (P.3), Properties of Functions (2.2), Difference Quotient (2.2), Rate of Change (2.4), Library of Functions (2.5)

Week 6-Piecewise Functions (2.2), Intro to Graphing Techniques and Transformations (2.5)

Week 7-More Graphing Techniques and Transformations (2.5), Constructing Functions-Mathematical Models (2.6)
Week 8-Quadratic Functions and Their Graphs (3.1), Mathematical Models (3.1)

Week 9-Solving Linear Inequalities in One Variable (1.7), Solving Polynomial Inequalities (3.6), Solving Rational Inequalities (3.6)

Week 10-Rational Functions: Domain, Asymptotes, and Graphs (3.5)

Week 10-Composition of Functions (2.6), Inverse Functions (2.7)

Week 12-Exponential Functions (4.1)

Week 13 Logarithmic Functions (4.2)

Week 14-Rules of Exponents and Properties and Logarithms (4.3)

Week 15-Systems of Linear Equations in Two Variables (8.1), Systems of Nonlinear Equations in Two Variables (8.4)