BGSU MATH 1220 – College Algebra II

Course Description: Review of functions and their graphs, linear and quadratic functions, factoring. Polynomial and rational functions. Review of exponents. Exponential and logarithmic functions and their graphs. Systems of equations, theory of equations.

Prerequisites: Two years of high school algebra, one year of geometry and a satisfactory placement exam score, or a grade of C or higher in Math 1120, or a grade of D in Math 1200.

Schedule: Fall, Spring, Summer. 3 credit hours.

Textbook: *College Algebra with Modeling and Visualization, 4th Edition* by Gary Rockswold, copyright 2010

Calculator: A *graphing* calculator is required for Math 122. If you are contemplating the purchase of a new calculator, the best model is the TI-83 Plus or a TI-84. If you already own a high-end graphing calculator that is equivalent to a TI-83 Plus or TI-84 (or better) you are welcome to use it in the course.

Tests: Tests are common exams across course sections, written by the course coordinator in consultation with the instructors. All tests are Thursday evenings from 7:30 p.m. – 9:00 p.m. The tests are not given in students' regular classrooms. (Location to be determined closer to the test date.) Tests 2 and 3 may include review problems. Class is still held on the day of a test.

Additional Resources:
The Math and Stats Tutoring Center provides a variety of resources, including books, videos, old tests, and tutors. Please stop by and check them out at 208 Moseley Hall. You can also find them on the web at http://www.bgsu.edu/offices/acen/mathlab

Course Coverage:
Functions and Their Representations (Chapter 1, Section 3)
Lines and Equations of Lines (Chapter 2, Sections 1 and 2)
Piecewise Defined Functions (Chapter 2, Section 1)
Solving Systems of Linear Equations by Elimination (Chapter 6, Sections 1 and 2)
Radical Expressions (Review Section 7)
Quadratic Functions and Models (Chapter 3, Section 1)
Quadratic Equations and Problem Solving (Chapter 3, Section 2)
Linear and Quadratic Regression (Chapter 2, Section 1 and Chapter 3, Section 1)
Test #1

Transformations of Graphs (Chapter 3, Section 5)
Nonlinear Functions and Their Graphs (Chapter 4, Section 1)
Polynomial Functions and Models (Chapter 4, Section 2)
Rational Functions and Models (Chapter 4, Section 6)
Polynomial and Rational Inequalities (Chapter 4, Section 7)
Test #2

Integer Exponents and Rational Exponents (Review Sections 2 and 6)
Power Functions and Radical Equations (Chapter 4, Section 8)
Combining Functions (Chapter 5, Section 1)
Inverse Functions and Their Representations (Chapter 5, Section 2)
Exponential Functions and Models (Chapter 5, Section 3)
Logarithmic Functions and Models (Chapter 5, Section 4)
Properties of Logarithms (Chapter 5, Section 5)
Test #3

Exponential and Logarithmic Equations (Chapter 5, Section 6)
Constructing Nonlinear Models (Chapter 5, Section 7)
Comprehensive Final Exam