MATH 1050

Division: Natural Science and Mathematics
Department: Mathematics
Course: MATH 1050
Title: College Algebra
Catalog Description:

An axiomatic development of the real number system, logarithms, systems of equations, complex numbers, theory of equations, matrices, progressions, and the binomial theorem.

General Education Requirements: Math
Semesters Offered: Fall, Spring
Credit/Time Requirement: Credit: 4; Lecture: 4; Lab: 0
Clock/Hour Requirements: 0
Offered for Non-Credit: No
Prerequisites: A grade of C- in Math 1010 or equivalent or an Math ACT of 23 or better. Graphing calculator required.

Justification:

Math 1050 is the college algebra course providing the material for many students in their various majors. It also fulfills General Education Requirements. It is similar to courses offered by the other colleges and universities in the state.

Student Learning Outcomes:

Upon successful completion of this course, students will:

- know and understand the relevant theorems used in this course that allow them to complete problem solutions
- be able to manipulate all facets of the complex number system in arithmetic and algebraic systems
- be able to use the principles of analysis found in the theory of equations to continue in the study of calculus
- develop understanding and recognition of applications of mathematics in various sciences
- feel that the knowledge gained in this class will prepare them for future course work in science and engineering
- believe that knowledge in mathematics will help them to solve practical problems in their future occupations

Content:

This course will include:

- Linear Equations and Inequalities
- Relations (Conic Sections)

- Functions
    - Polynomial and Rational Functions
    - Exponential and Logarithmic functions
- Systems of Equations and Inequalities
- Matrices
- Probability
- Sequences and Series
- Binomial theorem

General Education Outcomes:

6) Apply computational skills to a variety of contexts.
Homework exercises and exam problems require computational skills in a variety of theoretical and applied situations.

Key Performance Indicators:

- weekly quizzes (short answers): 10%-15% of the final grade
- 7 examinations: 40%-55% of the final grade
- 1 final examination: 15%-20% of the final grade
- daily home work assignments: 5%-10% of the final grade
- student presentations in class: 5% of the final grade

Representative Text and/or Supplies:

- Larson, Hostetler, Hodgkins, *College Algebra: Concepts and Models*, current edition.

Optimum Class Size: 25
Maximum Class Size: 36

Signatures:

I hereby submit this course syllabus:

Kari Arnoldsen, PhD, Professor

I hereby find this course consistent with the goals and resources of the Mathematics Department:

Kari Arnoldsen, PhD, Professor, Chair

I hereby find this course consistent with the goals and resources of the Natural Science and Mathematics Division:

Dan Black, EdD, Associate Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)