



September 2008

MATH 126 Pre-Calculus Algebra I Laboratory

1. Catalog Description

MATH 126, 127 Pre-Calculus Algebra I, II Laboratory (1) (1) (CR/NC)

Facilitated study and discussion of the theory, problems, and applications of pre-calculus algebra. Credit/No Credit grading only. 1 laboratory. **MATH 126** corequisite: Concurrent enrollment in the associated section of MATH 116. **MATH 127** corequisite: Concurrent enrollment in the associated section of MATH 117.

2. Required Background or Experience

Concurrent enrollment in the associated section of Math 116.

3. Learning Objectives

The student should be able to:

- a. Achieve the course objectives of Math 116 at a higher level of understanding and with improved self-confidence.
- b. Communicate and interact with peers on a mathematical level.
- c. Develop a sense of community with fellow classmates.

4. Text and References

Dugopolski, Mark, Precalculus: Functions and Graphs, 3rd ed., Pearson/Addison-Wesley, 2009.

5. Minimum Student Materials

Paper, pencils and notebook.

6. Minimum University Facilities

Classroom with ample chalkboard space for class use.

7. Content and Method

Topic

Lectures

Chapter 1: Equations, Inequalities, and Modeling

- 1.1 Equations in One Variable
- 1.2 Constructing Models to Solve Problems
- 1.3 Equations and Graphs in Two Variables
- 1.4 Linear Equations in Two Variables
- 1.6 Complex Numbers
- 1.7 Quadratic Equations
- 1.8 Linear and Absolute Value Inequalities

Chapter 2: Functions and Graphs

- 2.1 Functions
- 2.2 Graphs of Relations and Functions
- 2.3 Families of Functions, Transformations, and Symmetry
- 2.4 Operations with Functions
- 2.5 Inverse Functions
- 2.6 Constructing Functions with Variation

Chapter 3: Polynomial and Rational Functions

- 3.1 Quadratic Functions and Inequalities
- 3.2 Zeros of Polynomial Functions
- 3.3 The Theory of Equations

Method

Supervised work both individually and in small groups, facilitated discussions, oral presentations, practice examinations.

8. Methods of Assessment

Credit will be awarded on the basis of attendance, participation, and a grade of C- or better in Math 116.