Course Outline

Department of Mathematics and Statistics

Minnesota State University, Mankato

Math 130 Finite Mathematics & Introductory Calculus (4 semester hours)

Course Description:

This course develops concepts and skills in algebra and introductory calculus needed to model applications in business, economics, social sciences and life sciences, using polynomials, exponentials, logarithms, linear systems, linear programming, sequences, series, derivatives and integrals.

Prerequisites: Satisfy Placement Table in this section, or grade of “C” (2.0) or better in either MATH 112 or MATH 115.

Learning Outcomes:

Students will be able to

1. Apply algebraic skills to real world problems.
2. Understand applications of calculus to financial mathematics.
3. Interpret and solve mathematical problems with Excel.

Content Outline:

1. Linear Functions
2. Systems of Equations
3. Linear Programming
4. Simple and Complex Interest
5. Annuities, Loans, and Bonds
6. Nonlinear Functions and Models
7. Average Rate of Change and Limits
8. Rules of Differentiation
9. Differentiation Techniques
10. Definite and Indefinite Integrals

Textbook/Related Readings/Materials:

Waner and Costenoble, Finite Mathematics & applied Calculus (5e ed.)