

# Bemidji State University

## MATH 1470: Precalculus

### A. COURSE DESCRIPTION

Credits: 5

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 04 - Mathematical/Logical Reasoning

Intended to provide the essential mathematical background needed in calculus. Topics include equation solving, functions (including polynomial, rational, exponential, logarithmic, trigonometric, and inverse trigonometric), identities, applications, and parametric equations. A graphing calculator is required.

Prerequisites: Three years of high school mathematics (including two years of algebra with a half year of trigonometry strongly recommended) and an appropriate score on the Mathematics Placement Test, or completion of MATH 1170 with a grade of C or better. Liberal Education Goal Area 4.

**B. COURSE EFFECTIVE DATES:** 09/14/2000 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Review Topics
2. Polynomial and Rationa Functions
3. Exponential and Logarithmic Functions
4. Trigonometry
5. Analytic Trigonometry
6. Additional Topics in Trigonometry
7. Systems of Equations and Inequalities
8. Matrices and Determinants

### D. LEARNING OUTCOMES (General)

1. gain a basic understanding of the topics of precalculus.
2. apply the basic understanding of the concepts in problems solving and mathematical modeling.
3. dtermine which method of representation (graphical, numerical, or algebraic) is best suited in problem solving situations dealing with precalculus mathematics.
4. use the language of mathematics to discuss mathematical ideas and construct logical arguments to justify solutions to problems either orally or in written form.
5. begin to appreciate the structure of mathematics as the foundation is laid for calculus.

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 04 - Mathematical/Logical Reasoning

1. Illustrate historical and contemporary applications of mathematical/logical systems.
2. Clearly express mathematical/logical ideas in writing.
3. Explain what constitutes a valid mathematical/logical argument(proof).
4. Apply higher-order problem-solving and/or modeling strategies.

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted