MATH 1470: Precalculus

A. COURSE DESCRIPTION

Credits: 5
Lecture Hours/Week: 0
Lab Hours/Week: 0
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. [Core Curriculum Goal Area 4]

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

C. OUTLINE OF MAJOR CONTENT AREAS

1. Review Topics
2. Polynomial and Rational 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. solve linear, polynomial, exponential, logarithmic, trigonometric and rational equations.
2. perceive connections between graphic, algebraic, and numeric representations.
3. apply problem solving techniques and mathematical modeling to understand and make decisions about real world problems.
4. analyze structure, pattern, organization, and alternative ways of thinking in mathematics.
5. create what constitutes a logical argument and an informal mathematical proof.
6. apply the language of mathematics and develop the ability to express clearly mathematical ideas orally and in writing.

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. Apply higher-order problem-solving and/or modeling strategies.
F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted