Minnesota State College Southeast

MATH 1225: Pre-Calculus

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites:
This course requires any of these seven prerequisites
    MATH 1025 - Algebra
    MATH 1555 - Algebra
    A score of 1158 on test MN Comprehensive Assessment Math
    A score of 22 on test ACT Math
    A score of 50 on test Accuplacer College Level Math
    A score of 530 on test SAT Math Composite
    A score of 230 on test Accuplacer NG Advanced Algebra Functions

Corequisites: None

MnTC Goals: Goal 04 - Mathematical/Logical Reasoning

Pre-calculus is designed to increase students' knowledge about mathematical and logical modes of thinking and will provide students the skills necessary for the successful completion of calculus. Topics include polymonials and rational functions; exponential and logarithmic functions; trigonometric functions of real numbers and angles; analytical trigonometry; polar coordinates and vectors; and sequences and series. Pre-calculus is a Minnesota Transfer Level Course.   (Meets MnTC Goal 4) (Prerequisite: A minimum score of 50 in the college level math section of the ACCUPLACER basic skills test or a minimum score of 22 on the math subject area of the ACT test or successful completion of MATH1025) (3 credits: 3 lecture/0 lab)

B. COURSE EFFECTIVE DATES: 07/20/2016 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Polynomials and Rational Functions
2. Exponential Functions and Logarithmic Functions
3. Trigonometric Functions of Real Numbers & Angles
4. Analytic Trigonometry
5. Polar Coordinates and Vectors
6. Sequences and Series

D. LEARNING OUTCOMES (General)

1. To increase students' knowledge about mathematical and logical modes of thinking
2. To enable students to appreciate the breadth of applications of mathematics, evaluate arguments, and detect fallacious reasoning
3. To apply mathematics to help make decisions in lives and careers
4. To build a solid mathematical foundation for further study in many disciplines, particularly engineering, mathematics, and the sciences
5. To use mathematical concepts in interpret, understand, and document related aspects in society, technology and the world
6. To explore topics that will be applied in calculus
7. To develop an increased understanding of algebra, trigonometry, and functions to apply to higher conceptual levels
8. To demonstrate the use of mathematical tools such as vectors, matrices, and polar coordinates in modeling and solving real world problems

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

This course was previously MATH 2525.