Alexandria Technical and Community College

MATH 1431: Geometry

A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 3
Lab Hours/Week: *.*
OJT Hours/Week: *.*

Prerequisites:
This course requires any of these six prerequisites
  Algebra College Level
  ATCC Calculus-Level Placement
  A score of 2 on test Algebra
  MATH 0431 - Intermediate Algebra (Minimum grade: 2.0 GPA Equivalent and Number of Years Valid: 5)
    MATH 1421 - College Algebra
    MATH 1425 - Precalculus

Corequisites: None

MnTC Goals: Goal 04 - Mathematical/Logical Reasoning

This course covers plane geometry, triangle congruency, the Pythagorean Theorem, analysis of geometric shapes, and the basics of solid geometry.

B. COURSE EFFECTIVE DATES: 12/16/1997 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Define common terms in Euclidean geometry.
2. Solve for missing angles created by intersecting lines in two-dimensional space.
3. Solve for missing angles and sides in triangles using congruency theorems.
4. Solve for missing dimensions in similar shapes.
5. Analyze the Pythagorean Theorem.
6. Analyze triangles, quadrilaterals, and other polygons.
7. Analyze inscribed angles, chords, secants, and tangent lines.
8. Solve area and volume problems using scale and proportion.
9. Calculate volume of prisms, cylinders, and cones.

D. LEARNING OUTCOMES (General)

1. The learner will be able to apply geometric theorems to solve for missing values.
2. The learner will be able to analyze and solve geometric problems involving angles, lines, and points.
3. The learner will be able to apply formulas to solve geometric word problems.

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

Goal 04 - Mathematical/Logical Reasoning

1. Explain what constitutes a valid mathematical/logical argument (proof).
2. Apply higher-order problem-solving and/or modeling strategies.
3. Illustrate historical and contemporary applications of mathematical/logical systems.
F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted