Alexandria Technical and Community College

MATH 1451: Technical Math

A. COURSE DESCRIPTION

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

   Prerequisites:
   This course requires any of these six prerequisites
   - MATH 0421 - Bridge to College Algebra (Minimum grade: 2.0 GPA Equivalent and Number of Years
     Valid: 5)
   - MATH 0431 - Intermediate Algebra (Minimum grade: 2.0 GPA Equivalent and Number of Years
     Valid: 5)
     - Algebra College Level
     - ATCC Fund of Physics
     - ATCC Calculus-Level Placement
     - A score of 2 on test Algebra

   Corequisites: None
   MnTC Goals: None

   This course teaches math concepts used in trade and industry formulas by engine technicians. Emphasis is
   on decimal and fractional operations, simplifying values, practical applications of ratios and percentages,
   measurement conversion, geometric relationships, and use of many industry formulas.
   Prerequisite(s): College level math score on a placement test or a minimum grade of "C" in MATH 0322
   College Prep Tech Math.

B. COURSE EFFECTIVE DATES: 07/01/1999 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

   1. Applying formulas to hydraulic systems
   2. Applying geometric formulas such as perimeter, area, and volume
   3. Calculating accurately in decimal and fraction form
   4. Converting measurements between systems
   5. Determining engine measurements
   6. Problem solving using ratios and proportions
   7. Problem solving using transmission and gear ratios
   8. Solving crankshaft and camshaft applications
   9. Using percentages in business and technical applications

D. LEARNING OUTCOMES (General)

   1. The learner will select and utilize the appropriate industry formula to solve applied technical
      problems.
   2. The learner will select and utilize the appropriate industry formula to solve applied technical
      problems.
   3. The learner will use problem solving techniques to solve applied technical problems, providing the
      answer in simplest form.
E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted