Alexandria Technical and Community College

MATH 1452: Technical Math

A. COURSE DESCRIPTION

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

Prerequisites:
This course requires any of these seven prerequisite categories
1. MACH 1624 - Shop Math I (Number of Years Valid: 5)
   Or
2. MATH 0322 - College Prep Technical Math (Minimum grade: 2.0 GPA Equivalent and Number of
   Years Valid: 5)
   Or
3. A score of 18 on test ACT Math
   Or
4. A score of 74 on test Accuplacer Arithmetic
   Or
5. A score of 63 on test Accuplacer Elementary Algebra
   Or
6. A score of 58 on test Accuplacer Intermediate Algebra
   Or
7. A score of 2 on test Arithmetic

Corequisites: None

MnTC Goals: None

This course teaches learners basic knowledge of right angle trigonometry as used by the machinist and
toolmaker. Prerequisite: MACH1624, college level score on math placement test, or Shop Mathematics or
a minimum grade of "C" in MATH0322 (College Prep Tech Math).

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

C. OUTLINE OF MAJOR CONTENT AREAS

1. Solve right triangles using the sine, cosine, and tangent functions.
2. Calculate angles using inverse trigonometric functions.
3. Use right triangles to solve for missing dimensions on a variety of geometric shapes.
4. Perform calculations related to gauge blocks and sine bars.
5. Find (x,y) centers on bolt hole circles.
6. Solve applied problems related to dovetails.
7. Solve applied problems related to tapered shafts.
9. Solve problems involving spur gear formulas.

D. LEARNING OUTCOMES (General)

1. The learner will understand how trigonometry relates to machining.
2. The learner will understand trig functions, and be able to solve problems.
3. The learner will understand and use trigonometry problems to solve machining math problems
   related to shop projects.
E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted