



804-361 Occupational Math 2

Moraine Park Technical College

COURSE INFORMATION

Develops skills in algebra, geometry, and trigonometry. Students solve applied problems related specifically to the metalworking and machining occupations using numerous geometric and tolerance relationships, speeds and feeds calculations, and right triangle trigonometric ratios. This course is for CNC / Tool and Die Technologies program students.

Textbook

Mathematics for Machine Technology; 8th edition. Authors: Robert D. Smith and John C. Peterson

Publisher

Delmar/Cengage Learning

ISBN

978-1-4283-3656-8

Supplies

Casio fx-300ES PLUS calculator or any scientific calculator

Pencil

Paper

COURSE COMPETENCIES

1. Compute total tolerances and limits of dimensions.
2. Compute clearances and interferences of mating parts.
3. Solve cutting speed, rpm, and cutting time problems by formula substitution.
4. Solve production time and cutting speed problems by algebraic rearrangement.
5. Convert angle measures between Decimal Degrees and Degrees-Minutes-Seconds.
6. Perform arithmetic operations on angles measured in Degrees-Minutes-Seconds.
7. Identify the parts of a circle.
8. Solve circular problems involving chords, arcs, central angles, and tangents.
9. Identify the sides of a right triangle with reference to any angle.
10. State the ratios of the trigonometric functions in relation to given angles.
11. Compute an unknown angle of a right triangle when two sides are known.
12. Compute an unknown side of a right triangle when an angle and a side are known.