804-360 Occupational Mathematics 1
Moraine Park Technical College

COURSE INFORMATION

Develops skills in arithmetic (whole numbers, fractions, decimals, and integers) via both manual and calculator-assisted calculations. Students solve applied problems related to various occupational areas using measurement conversions, basic algebra, and introductory geometry and trigonometry.

Textbook

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

Publisher

Delmar/Cengage Learning

ISBN

978-4283-3656-8

Please note this textbook is not required for the course but can be used as a resource to prepare for the Challenge Exam.

Supplies

Casio fx-115ES calculator or any scientific calculator

COURSE COMPETENCIES

1. Perform arithmetic operations on whole numbers.
2. Perform arithmetic operations on fractions and mixed numbers.
3. Perform arithmetic operations on decimals.
4. Convert measurements within and between the English and Metric systems.
5. Perform arithmetic operations on integers.
6. Solve problems with algebraic expressions and equations.
7. Solve geometric application problems.
8. Solve trigonometric application problems.

Occupational Math 1 Topics
Order of Operations
Negative Numbers
Decimals
Fractions
US Measurement System
Metric System
Converting Between Measurement Systems
Converting Units of Area
Converting Units of Volume
Real Numbers and Measurement Conversion
The Language of Algebra
Solving Equations (Add/Sub Properties)
Solving Equations (Mult/Div Properties)
Variables on Both Sides
General Strategy for Linear Equations
Equations with Fractions for a Variable
Solving Equations
Basics of Percents
Percent Problems and Applications
Percent Applications
Ratios, Rates, Proportions
Applications of Proportionality
Direct and Inverse Variation
Percents, Proportions, and Variation
Perimeter and Circumference
Area of Polygons and Circles
Composite Figures
Surface Area of Common Solids
Volume of Common Solids
Angles
Triangles
Right Triangle Trigonometry
Geometry and Trigonometry