

Module 1: Industrial Math

The student will be able to:

Add, subtract, multiply, and divide fractions

Reduce fractions to the lowest common denominator

Add, subtract, multiply, and divide decimals

Learn how to use a decimal chart

Calculate volume and liquid measurements

Understand the concept of torque and value of holding parts in a machine vise

Module 2: Blueprint Reading

The student will be able to:

Identify differences between part drawing and an assembly drawing

Identify differences between the cost of manufacturing a part and sales pricing

Understand 1st vs. 3rd view projections

Identify various parts of title block

Recognize the difference between direct and non-direct reading tools (gaging)

Identify tolerances of a part

Determine diameter and radius of a circle, understand contours, arcs, circles, and radii

Recognize various thread forms

Identify grooves, necks, key/keyseats, flats, and a boss

Module 3: Measurement & Mfg

The student will be able to:

Identify basic measuring systems

Identify size differences by sight

Use blueprints to make parts

Operate dial, digital, and vernier calipers

Operate digital & nondigital micrometers

Identify differences b/w measuring and gaging

Use layout tools and understand their function

Understand bolts and their grades of construction

Identify types and uses of jigs and fixtures

Identify various types of saws

Use and calculate speeds and feeds for drills and drilling machines

Demonstrate basic operations on manual lathes