



# Measurement, Materials, & Safety

## OVERVIEW

This certification validates that an individual has the fundamental knowledge of standard steel classifications and numbering systems, reading of precision measuring devices, shop and machine safety, and general machining practices, and inspection techniques.

## COMPETENCIES

## KNOWLEDGE + SKILLS

<b>Applied Mathematics</b>	Arithmetic Pythagorean Theorem	Right Angle Trigonometry Use of Scientific Calculator
<b>Filing</b>	File Maintenance File Selection	File Types Filing Techniques
<b>Fits</b>	ANSI Standard Fit Symbols	Classes of Fits
<b>Geometrical Dimensioning and Tolerancing</b>	Feature Control Frame Geometric Control Symbols Geometric Tolerancing Categories	Geometric Tolerancing Characteristics Geometric Tolerancing Zone Shapes Symbols Associated with Feature Control Frames
<b>Inspection</b>	Gage Block Assembly	Sampling Procedure
<b>Machine Maintenance</b>	Coolants Oils and Lubrications	Refractometer Readings
<b>Machine Safety</b>	Machine Guarding	
<b>Machining Applications</b>	Drilling Pocket Milling	Reaming Tapping
<b>Materials</b>	Standard Steel Classification	Standard Steel Numbering System (AISI/SAE)
<b>Measurements</b>	Reading Micrometers Reading Steel Rule	Reading Vernier Scales
<b>Print Reading</b>	Block Tolerances Line Types and Conventions Orthographic Projection	Surface Finish Requirements Title Blocks and Revisions
<b>Shop Safety</b>	Blood Born Pathogen Fire Prevention/Suppression Hazardous Material Information System (HMIS) Lock Out/Tag Out	Means of Egress (Evacuation) Personal Protective Equipment (PPE) Safety Data Sheets (SDS) Waste Removal