



EMPLOYABILITY PROFILE

Manufacturing Technology Pre-Apprenticeship



Industry Based Skill Standards

Proficiency Definitions

NA = Not Applicable 1 = Developing 2 = Basic 3 = Proficient 4 = Mastery

	9th	10th	11th	12th
Materials and Material Handling				
Explain the operation and limitation of fork lifts/PITs.				
Describe the safe operation of common lifting and moving devices.				
Design Process	9th	10th	11th	12th
Define and apply the design process.				
Can create a sketch of a Multiview drawing given an isometric drawing				
Understands the factors involved in brainstorming, prototyping and reverse engineering.				
Mathematics	9th	10th	11th	12th
Demonstrates how to develop and interpret graphs and charts.				
Able to solve problems involving geometric shapes, using formulas				
Able to calculate torque, speed, voltage, and ratios using standard equations.				
Safety	9th	10th	11th	12th
Can use electrical power tools safely				
Can perform a Lockout and Tag out procedure				
Complete OSHA 10 safety course				
Knows basic industrial safety rules and how to report unsafe conditions.				
Can identify fire exits, fire fighting equipment, and evacuation procedures.				
Knows how to perform an equipment safety check.				
Knows the importance of ergonomics				
Knows how to find and interpret a MSDS document				
Can identify and wear proper personal protective gear				
Foundations of Manufacturing	9th	10th	11th	12th
Can Identify components of an effective quality system				
Knows how to apply continuous quality improvement				
Knows about customer service and the importance				
Can perform quality inspections				
Print Reading	9th	10th	11th	12th
Able to develop 2 dimensional drawings with AutoCAD				
Can interpret commonly used symbols from a drawing				
Able to determine dimensions and tolerances from a drawing				
Knows how to extract information from a title block				
Can identify the type of lines used on a drawing				

	9th	10th	11th	12th
Manufacturing Processes and Assembly				
Can demonstrate basic hand tool care and use (Drills, Saws, Wrenches, etc)				
Can perform basic troubleshooting maintenance procedures				
Demo the five basic weld joints.				
Able to construct component from an assembly drawing				
Able to operate Mills, Drill Press, Lathe, Grinder				
Computer Use	9th	10th	11th	12th
Able to develop charts and graphs from data				
Able to develop documents using Microsoft Word processing software				
Able to describe different methods of tracking inventory				
Mastery of Microsoft Office Suite				
Process Control	9th	10th	11th	12th
Can explain how process control applications function				
Knows the advantages and disadvantages of "just-in-time" inventory				
Knows how time and motion studies are conducted and analyzed				
Electrical Systems	9th	10th	11th	12th
Can use DVM and Analog Voltmeter to gather electrical measurements.				
Can calculate unknown values using Ohms law				
Can troubleshoot simple electric circuits				
Can identify electrical components and what they are used for				
Demo the basic steps of hand soldering				
Hydraulics	9th	10th	11th	12th
Can demonstrate the basic functions of how a hydraulic system work				
Can determine system pressure using gauges				
Can interpret hydraulic connections from a drawing				
Measurement	9th	10th	11th	12th
Demonstrate mastery of measuring instruments; scale and tape measure				
Can identify precision measuring devices. (Vernier Calipers, Micrometers, etc.)				
Demonstrate mastery of Vernier Calipers and Micrometers.				