



[Name of High School or Skills Center]

CORE PLUS AEROSPACE AND ADVANCED MANUFACTURING

Manufacturing Skills, Part I Certificate of Competency

This certifies that

[NAME OF RECIPIENT]

has met the competencies as identified by
the School's Manufacturing Skills Advisory Committee

Manufacturing Skills Advisory Chair

Manufacturing Skills Instructor

School Director

Date

A Career and Technical Education planned program of courses and learning experiences that begin with the exploration of career options, supports basic academic and life skills, and enables achievement of high academic standards. The program meets the standards established by the Washington State Office of Superintendent of Public Instruction. (RCW 28C.700.010)



The program includes selected competencies identified by the Core Plus Sector Teams and Industry Work Groups that enable achievement of high academic standards, leadership, and options for high skill, high wage employment preparation, and advanced and continuing education. Students demonstrate occupationally specific skills and competencies in Aerospace and Advanced Manufacturing studies including the application of current state and national core content standards.

Rating Scale:

- 3 = Exceeds entry level criteria | Requires minimal supervision | Consistently displays this behavior
- 2 = Meets entry level criteria | Requires some supervision | Often displays this behavior
- 1 = Needs improvement | Requires much assistance & supervision | Rarely displays behavior

ADVANCED MANUFACTURING SKILLS		
Tools	K	S
Manual Hand Tools		
Hand-held Power Tools		
Floor and Bench Mounted Tools		
Mechanical Components, Assembly and Installation	K	S
Component Fabrication		
Fastener Installation, Types and Materials		
Fastener Removal and Repair		
Hole Fabrication		
Hole Finishing		
Safety Device Installation (wire / cable / cotter pin)		
Machining	K	S
Machining Process/Operations		
Grinding, Sanding, Sawing		
Milling, Turning		
Drawings, Specifications and Documentation	K	S
Standard Operating Processes & Procedures		
Geometric Dimensioning & Tolerancing (GD&T)		
Interpretation of work and production orders		
Mechanical Drawings, Diagrams, and Schematics		
Records and Reports		
Measurement	K	S
Marking and Work Layout		
Measuring		
Precision Measurement Tools and Devices		

SAFETY AND QUALITY SKILLS		
Safe Work Practices	K	S
Manufacturing Safety Awareness		
Personal Protective Equipment (PPE)		
Energy Sources		
Environmental Health & Safety (EHS)		
Ergonomics		
First Aid/CPR/AED		
Handling & Disposal of Hazardous Chemicals		
Hazard Communication (HazCom)		
Occupational Safety & Health Administration (OSHA)		
Quality Work Practices	K	S
First Time Quality and Defect Prevention		
Inspection Processes		
Foreign Object Debris (FOD) Reduction		
Proper Storage		
Shop Processes		
Testing Techniques		
Tool Control / Accountability		
Lean Manufacturing	K	S
5S (sort, simplify, sweep, standardize & self-discipline)		
Lean Processes & Principles		

APPLIED ACADEMIC SKILLS		
Industry Math	K	S
Basic math and algebra		
Units and conversion		
Geometry		
Industry Physics	K	S
Density, Volume and Mass		
Energy and Pressure		
Gas Laws		
Materials Science	K	S
Aluminum, Steel, and Copper materials/processes		
Chemical Bonding, Adhesive materials/processes		
Polymers and Composite materials/processes		
Corrosion Prevention		
AEROSPACE		
Aircraft Familiarization	K	S
Physics of Flight		
Aircraft Types		
Aircraft Structure and Component Identification		
WORKPLACE SKILLS		
Communication	K	S
Reading Comprehension		
Writing		
Verbal		
Problem Solving/Troubleshooting	K	S
Observation		
Reasoning		
Information Technology Fluency	K	S
Computer System and Application Navigation		
Internet Navigation		