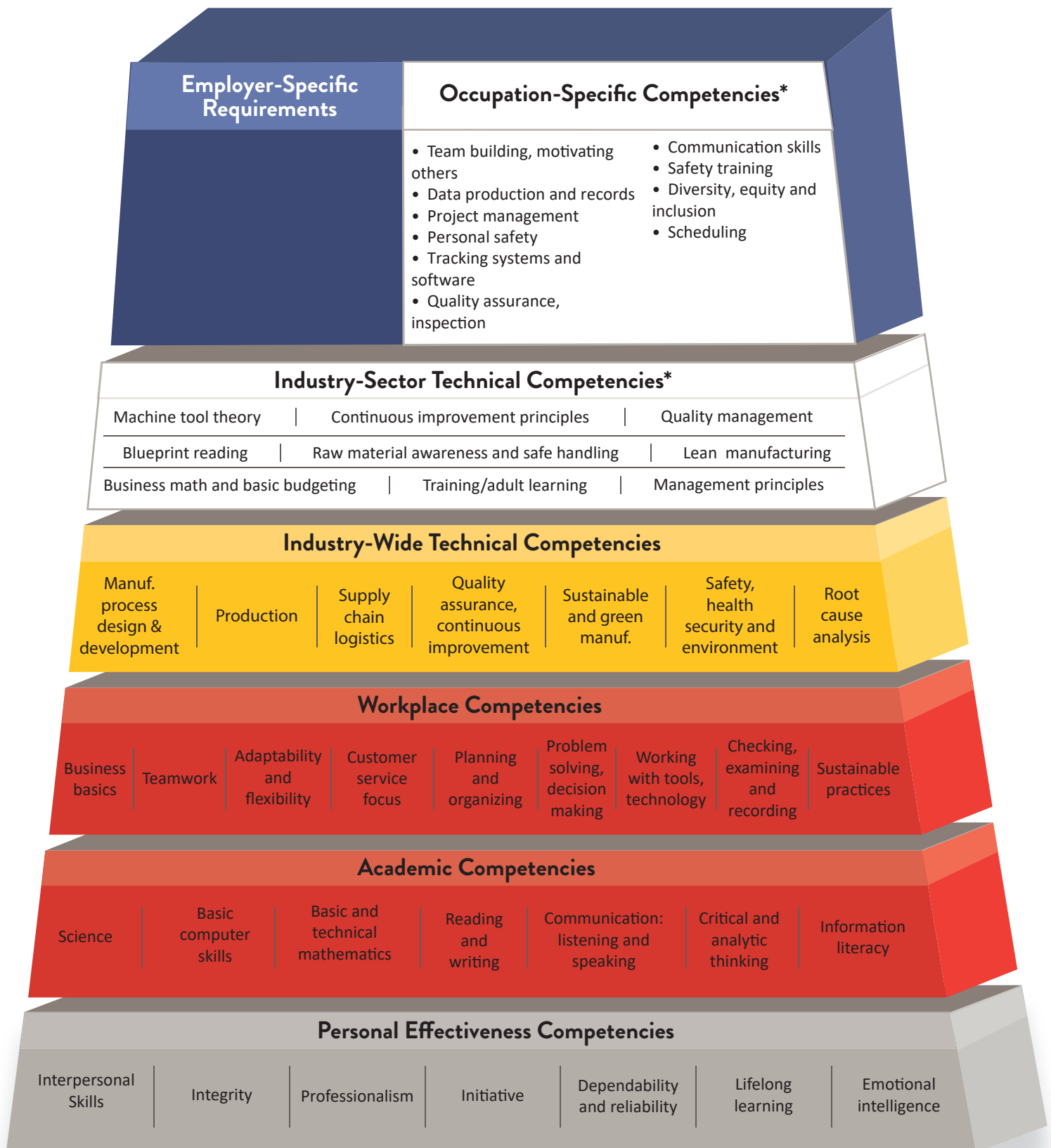


# Minnesota Dual-Training Pipeline

## Competency Model for Advanced Manufacturing

### Occupation: Manufacturing Production Supervisor



Based on: Advanced Manufacturing Competency Model Employment and Training Administration, U. S. Dept. of Labor, April 2010.

\*Pipeline recommends the Industry-Sector Technical Competencies as formal training opportunities (provided through related instruction) and the Occupation-Specific Competencies as on-the-job training opportunities.



**Manufacturing Production Supervisor** – This position is responsible for directly supervising and coordinating the activities of production and manufacturing operating workers such as inspectors, precision workers, machinists, machine setters and operators, assemblers, fabricators, and plant and system operators. A manufacturing production supervisor will oversee production processes from start to finish to ensure staff make products that meet quality standards, are completed on time, at cost and with safety assured for staff throughout the entire process.

### **Industry-Sector Technical Competencies**

- Machine tool theory—Learn to complete the processes required for manufacturing a precision part, use standard shop safety practices, set-up and operate standard manufacturing machines, complete accurate lay-outs, explain applications of hand tools and use correctly and use basic measuring tools.
- Blueprint reading—Knowledge in reading and understanding industrial prints.
- Business math and basic budgeting—Training in basic math including linear measurement, metrics, and some calculus in addition to knowing how to do basic budgeting.
- Continuous improvement principles—Understands how to look for ways to minimize and reduce process wastes, to notice and correct machine abnormalities, to maintain records and to adapt to process changes such as cycle times, set-ups, and tooling.
- Raw material awareness and safe handling—General understanding of the different raw materials possibly involved in production and how certain machine settings, temperatures, etc. can potentially impact different materials.
- Training/ adult learning—Understand how to effectively train and present materials to adult learners.
- Management principles—Understand theories related to management, leadership, and team building.
- Quality management—Understand how to oversee production is met to key standards and quality measures and ensure production staff make products that satisfy quality standards.
- Lean manufacturing—Know how to develop strategies and processes throughout production that maximize efficiency and eliminate waste.

### **Occupation-Specific Competencies**

- Team building / motivating others—Know how to have staff develop a culture that is supportive of individuals and the collective team. Ability to help staff better work together and be excited about their overall work.
- Data / production records—Know how to regularly maintain records of materials

used, products made and timing for set-up, operation cycle time and change over to new / different product(s).

- Project management—Understanding of how to oversee a product’s production life cycle from design elements to production implementation and ultimately full-scale production.
- Safety training – Understand how to train staff on how to operate safely in the production facility.
- Personal safety—Know how to use proper industry standards to maintain a safe work environment to ensure personal well-being for yourself and all production workers.
- Tracking systems and software—Understanding of how to use individual tracking systems and software such as Microsoft Excel, etc. to guide work processes, completion, and staffing.
- Scheduling—Know how to schedule employees for their various shifts, vacations, etc.
- Quality assurance/ inspection—Know how to check that finished products meet specified standards and how to train and oversee production staff on how to look for quality measures and do basic inspection.
- Communication skills—Know how to effectively communicate goals, wants, needs for company success with diverse team of staff you oversee as production supervisor in addition to others in the company who are at similar management levels and beyond.
- Diversity, equity, and inclusion – Understand principles of diversity, equity, and inclusion, how they impact your workforce and how to promote a company culture that embraces principles of diversity, equity, and inclusion within your workforce.

### **Manufacturing Production Supervisor Occupational Competency Training Plan**

*Related Instruction means an organized and systematic form of instruction designed to provide the apprentice with the knowledge of the theoretical and technical subjects related to the apprentice's trade of occupation, or industrial courses or, when of equivalent value, by correspondence, electronic media, or other forms or self-study approved by the commissioner.*

	<b>Course</b>	<b>Course Description</b>	<b>Credit/Non-Credit</b>	<b>Hours Spent on Competency</b>
	Machine tool theory			
	Blueprint reading			
	Business math and basic budgeting			
	Continuous Improvement Principles			

Raw Material Awareness and Safe Handling				
Management principles				
Quality management				
Lean manufacturing				
<i>On-The-Job Training is the work experience and instruction. Training experience need not be in the exact order as listed below.</i>				
	<b>Trainer/Instructor</b>	<b>Name of person responsible for verifying competency mastery</b>	<b>Hours spent on competency</b>	
Team building/ motivating others				
Data / production records				
Project management				
Safety training				
Personal safety				
Tracking systems and software				
Scheduling				
Quality assurance/ inspection				
Communications skills				
Diversity, equity, and inclusion				