

# Minnesota Dual-Training Pipeline

## Competency Model for Advanced Manufacturing

### Occupation: Print Press Operator

Employer-Specific Requirements	Occupation-Specific Competencies	
	<p><b>Press</b></p> <ul style="list-style-type: none"> <li>Plate set up and clean up</li> <li>Plate storage</li> <li>Roller setting</li> </ul> <p><b>Digital</b></p> <ul style="list-style-type: none"> <li>Clean and adjust print heads</li> </ul>	<p><b>All</b></p> <ul style="list-style-type: none"> <li>Paperwork, including quality control sign-offs &amp; checks</li> <li>Routine maintenance, cleaning equipment</li> <li>Basic equipment operations</li> <li>Color matching</li> <li>Data security</li> <li>Substrate properties</li> <li>Cutting, folding and blanket packing</li> <li>Ink and fountain control consistency</li> <li>Inspect machine to ensure no abrasions or faults causing inferior product quality</li> </ul>

Industry-Sector Technical Competencies*		
Safety and environmental considerations		Pre-press fundamentals (layout)
Graphic arts	Postal regulations	Color software   Troubleshooting   Measurement
Press components	Color measurement and balance	Color theory

Industry-Wide Technical Competencies						
Manuf. process design & development	Maintenance, installation and repair	Supply chain logistics	Quality assurance, continuous improvement	Sustainable and green manuf.	Safety, health security and environment	User and customer support

Workplace Competencies								
Business basics	Teamwork	Adaptability and flexibility	Technical work instructions	Planning and organizing	Problem solving, decision making	Working with tools, technology	Checking, examining and recording	Sustainable practices

Academic Competencies						
Science principles	Basic computer Skills	Mathematics	Reading and writing	Communication: listening and speaking	Critical and analytic thinking	Information literacy

Personal Effectiveness Competencies					
Interpersonal skills	Integrity	Professionalism	Initiative	Dependability and reliability	Lifelong learning

Based on: Advanced Manufacturing Competency Model Employment and Training Administration, United States Department 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



## Competency Model for Advanced Manufacturing

### Print Press Operator

**Print Press Operator:** A print press operator performs manual and machine operator tasks related to the setup, maintenance, and operations of a variety of printing press machines. Print press operators are responsible for the quantitative and qualitative performance of the press machinery to ensure the product meets company standards from start to finish.

### Industry-Sector Technical Competencies

Safety and environmental considerations – Knowledge of proper safety for equipment and manufacturing facilities and environmental concerns for the printing industry.

Measurement – Ability to properly measure the substrate and how it will fit in the print machine to maximize efficiency of the print product.

Pre-press fundamentals (layout) – Understand how to set up the machine in a manner that maximizes use of available substrate and readies the equipment to avoid mistakes or problems during printing.

Graphic arts – Understand different mediums and principles of two-dimensional, flat surface, art.

Press components – (Doctor blades, anilox rollers, gears, tooling and Dies) – Understand the important purpose and proper maintenance and safety of print press components.

Color theory – Understand basic color theory and its impact on the perception of color.

Color software – Knowledge of basic computer programs that can be used to alter the color in a two-dimensional object and/or graphically designed piece.

Color measurement and balance – Understand density, dot gain, lab color space, and the proper use of a spectrodensotometer for measuring color properties.

Postal regulations – Knowledgeable of the current postal costs and size requirements for printing addresses, bar codes, stamps, etc.

Troubleshooting – Know how to solve common problems and develop solutions as well as train on troubleshooting guidelines and processes.

## **Occupation-Specific Competencies**

### **Press**

Plate set up/Clean up – The ability to ready ink for the correct plate for the print job as well as place the plate in the correct spot on the press and finally, ability to properly remove the plate and clean it so it can be stored for future use.

Plate storage – Understand best practices for storing printing plates in a manner that ensures plates are safely held, easily located and ready to be used for further print jobs.

Roller setting – Ability to place rollers in a manner that optimizes ink efficiency, while ensuring that pressure and speed of printing creates high quality prints without any damages or wrong markings.

### **Digital**

Clean and adjust print heads – Understand principles of how to properly remove, clean and replace inkjet heads for printing.

### **All**

Paperwork, including quality control sign-offs and checks – Demonstrate an understanding of quality control as it relates to a manufacturing setting.

Substrate Properties – Understand the many different materials (substrates) that products will be printed on and how the difference of material may affect the print job(s).

Data Security – Understand and be trained that all print materials are the property of the customer and not to be shared or used for an employee's personal benefit. Knowledge that print materials are proprietary and that sharing information or stealing information from print jobs is a serious breach of data security for the customer.

Cutting, folding and blanket packing – Understand how to properly cut substrate to maximize efficiency. Ability to properly fold substrate in pack blankets of substrate in ways that accounts for pressure and weight so that the product ensures high quality without being damaged.

Basic equipment operations – At least a minimal working knowledge of all the components of the printing machine and how the individual parts of the machine interact with each other to create high quality product. This knowledge will greatly help with troubleshooting if a problem with the machine arises.

Routine maintenance and cleaning of equipment – Understand basics of plates, inkjet and printing machinery's most common problems and abilities to fix them and then also know the cleaning equipment in a manner that allows for future equipment use.

Color matching – Ability to match the color(s) of the proof with the colors available in your stock and to adjust print plates and/or inkjet to have new printed material match the same color as the proof.

Ink and fountain control consistency – Attention to detail and ability to monitor quality control in print jobs to ensure that from start to finish the ink and fountain are creating a printed material that is consistent with customer's desired product/ proof.

Inspect machine to ensure no abrasions or faults causing inferior product quality – Routinely inspect the print press machinery to verify that no faults from the machine are causing errors in the printed materials.

### Print Press Operator Occupational Training Plan

	List Course/Training Name and Title	Description of Courses and/or Training Program	List Responsible Provider: Company, College, Trainer, or other	Anticipated Completion Date
<i>Related Instruction Competencies</i>				
Safety and environmental considerations				
Graphic arts				
Press components				
Color theory				
Color software				
Color measurement and balance				
Postal regulations				
Binding and finishing fundamentals				
Troubleshooting				
Measurement				
Pre-Press Fundamentals (layout)				
<i>On-The-Job Training Competencies</i>				
<b>Press</b>				
Plate set up/ Clean up				
Plate storage				
Roller setting				

<b>Digital</b>				
Clean and adjust print heads				
<b>All</b>				
Paperwork, including quality control sign-offs and checks				
Routine maintenance and cleaning of equipment				
Color matching				
Ink and fountain control consistency				
Inspect machine to ensure no abrasions or faults causing inferior product quality				
Substrate properties				
Data security				
Cutting, folding and blanket packing				
Basic equipment operations				