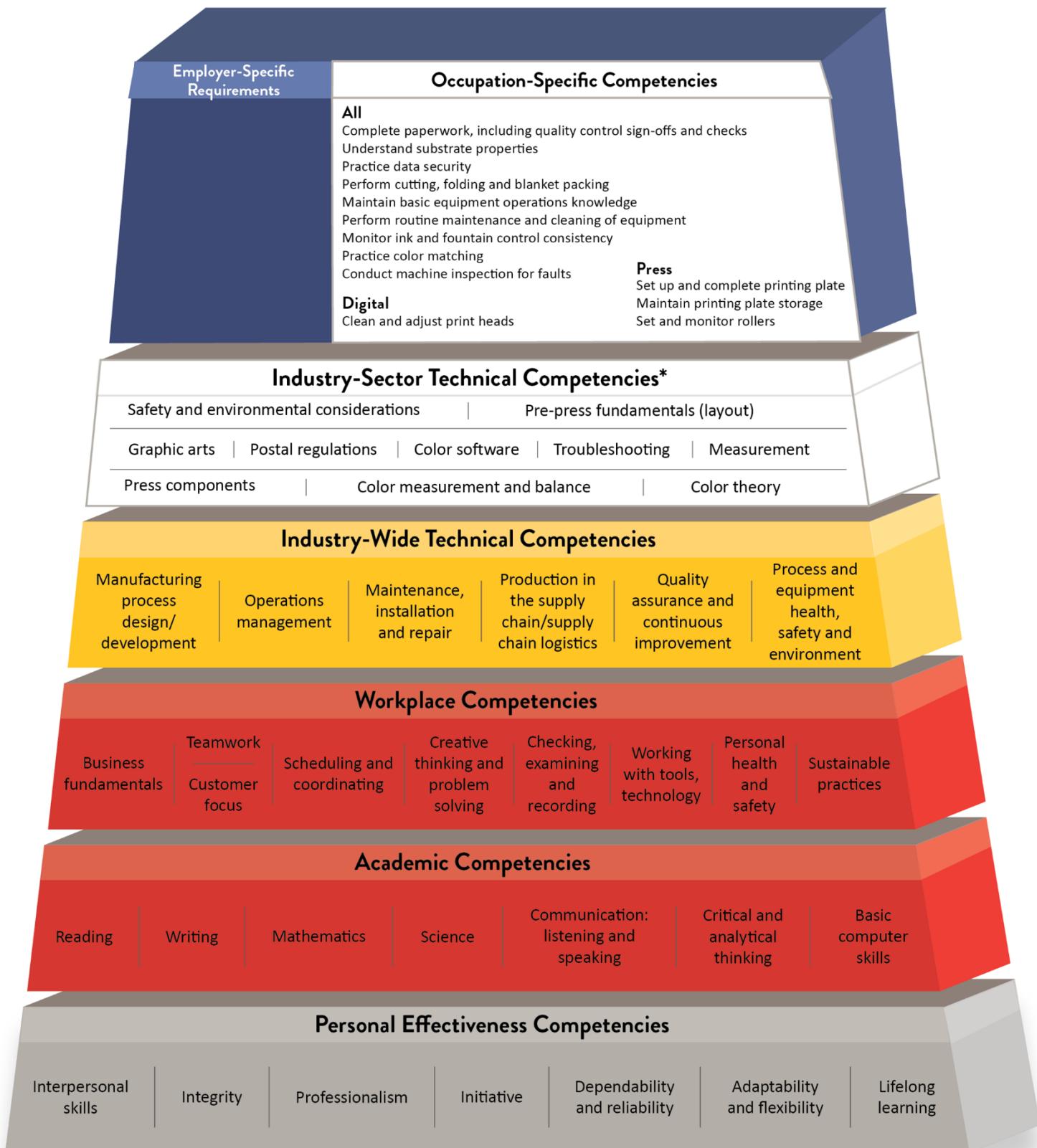


Minnesota Dual-Training Pipeline

Competency Model for Advanced Manufacturing

Occupation: Print Press Operator



Based on: Advanced Manufacturing Competency Model, Employment and Training Administration, United States Department of Labor, February 2025. For more detailed information about competency model creation and sources, visit dli.mn.gov/business/workforce/advanced-manufacturing.



Competency Model for 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.

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

Industry-Sector Technical Competencies

Related Instruction for dual training means the organized and systematic form of education resulting in the enhancement of skills and competencies related to the dual trainee's current or intended occupation.

- **Safety and environmental considerations** – Knowledge of proper safety for equipment and manufacturing facilities and environmental concerns for the printing industry.
- **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.
- **Postal regulations** – Knowledgeable of the current postal costs and size requirements for printing addresses, bar codes, stamps, etc.
- **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.
- **Troubleshooting** – Know how to solve common problems and develop solutions as well as train on troubleshooting guidelines and processes for print press related functions.
- **Measurement** – Ability to properly measure the substrate and how it will fit in the print machine to maximize efficiency of the print product.

- **Press components** – Understand the important purpose and proper maintenance and safety of print press components (doctor blades, anilox rollers, gears, tooling and dies).
- **Color measurement and balance** – Understand density, dot gain, lab color space, and the proper use of a spectrodensotometer for measuring color properties.
- **Color theory** – Understand basic color theory and its impact on the perception of color.

Occupation-Specific Competencies

On-the-Job Training is hands-on instruction completed at work to learn the core competencies necessary to succeed in an occupation. Common types of OJT include job shadowing, mentorship, cohort-based training, assignment-based project evaluation and discussion-based training.

All

- **Complete paperwork, including quality control sign-offs and checks** – Demonstrate an understanding of quality control as it relates to a manufacturing setting.
- **Understand 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).
- **Practice 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.
- **Perform 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.
- **Maintain basic equipment operations knowledge** – 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.
- **Perform 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.
- **Practice 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.

- **Monitor 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.
- **Conduct machine inspection for faults** – Routinely inspect the print press machinery to verify that no faults from the machine are causing errors in the printed materials.

Digital

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

Press

- **Set up and complete printing plate** – 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.
- **Maintain printing plate storage** – Understand best practices for storing printing plates in a manner that ensures are safely held, easily located and ready to be used for further print jobs.
- **Set and monitor rollers** – 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.

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