



Manufacturing Occupational Pathways

Youth Apprenticeship

ASSEMBLY AND PACKAGING

Assembly and Packaging youth apprentices follow processes to prepare goods and materials for shipping, including set up of assembly and packaging equipment and machinery. Apprentices must adhere to industry safety and security standards.

Length of Apprenticeship: One year

Bridges to Manufacturing Industrial Technician Registered Apprenticeship

ELECTROMECHANICAL/MECHATRONICS

Electromechanical/Mechatronics youth apprentices gain skills related to operating, testing, maintaining, or adjusting unmanned, automated, servomechanical, or electromechanical equipment. Apprentices must adhere to industry safety and security standards.

Length of Apprenticeship: One year

Bridges to Mechatronics Registered Apprenticeship

INDUSTRIAL EQUIPMENT

Industrial Equipment youth apprentices set up, operate, monitor, and control production equipment. Requirements. Apprentices must adhere to industry safety and security standards.

Length of Apprenticeship: One or two years

Bridges to Manufacturing Industrial Technician Registered Apprenticeship

MACHINING

Machining youth apprentices assist with basic machine operations, processes, and tools. Apprentices must adhere to industry safety and security standards.

Length of Apprenticeship: One year

Bridges to Manufacturing Industrial Technician Registered Apprenticeship

***Bridging**

MANUFACTURING PROCESSES

Manufacturing Process youth apprentices work with tools, equipment, and processes in various manufacturing industries. Apprentices must adhere to industry safety and security standards.

Length of Apprenticeship: One year

Bridges to Manufacturing Industrial Technician Registered Apprenticeship

PRODUCTION OPERATIONS

Production Operation youth apprentices gain skills related to the procedures and tools associated with manufacturing operations. Foundation tools, data analysis and troubleshooting are integrated.

Apprentices must adhere to industry safety and security standards.

Length of Apprenticeship: One year

Bridges to Manufacturing Industrial Technician Registered Apprenticeship

WELDING

Welding youth apprentices practice welding fabrication processes in various industry environments.

Apprentices must adhere to industry safety and security standards.

Length of Apprenticeship: One or two years

Bridges to Manufacturing Industrial Technician Registered Apprenticeship

Bridges to Welder-Fabricator Registered Apprenticeship

Key: *Bridging = Where an RA Bridge does not exist, one may be developed.

MANUFACTURING EMPLOYMENT OF MINOR'S CONSIDERATIONS

Youth apprentices who are 16-17 years old can perform work tasks, *only after appropriate operation/safety training AND only as indicated below*. The **student learner exception** limits the minor to using hazardous equipment on an **incidental basis** (less than 5% of their work time) and only **occasionally** (the work cannot be a regular part of their job). Student Learner status does NOT override the Employment of Minor's Laws.

Forklift Operation

- **Prohibited** to students

Hoists and Hoisting Apparatus (DWD 270.12(12)) -

Students age 16 and 17 years old **can**:

- **operate** an automatic elevator and an automatic signal operation elevator under certain conditions. Refer to DWD 270.12(12)(b) for exceptions and definitions of the terms used in this section.
- **operate** floor jacks, hand jacks, drive on lifts, and arm lifts used in conjunction with repairing or servicing motor vehicles. They may also use air compressors, tire changers, truck tire changers and wheel balancers, as long as there are automatic safety features that lock vehicles to the lifts.

Students age 16 and 17 years old **cannot**:

- operate an elevator, crane, derrick, hoist, or high-lift truck (including hoists commonly used on tow trucks and other hoists), **except** operating an unattended automatic operation passenger elevator or an electric or air-operated hoist not exceeding one-ton capacity.
- perform work that involves riding on a man lift or on a freight elevator, **except** a freight elevator operated by an assigned operator.
- assist in the operation of a crane, derrick or hoist performed by crane hookers, crane chasers, hookers-on, riggers, rigger helpers and like occupations.

Metal forming, punching, and shearing power-driven machines (270.12(19)) -

- Students may operate or assist on pressing or punching machines such as punch presses machines only if they are equipped with automatic feed and ejection, as well as a fixed barrier guard to prevent the hands or fingers of the operator from entering the area between the dies; power presses; and plate punches.
- All other types are considered hazardous and are prohibited.
- Power-Driven Machinery (light) (270.13(15))
 - Students may operate drill presses, grinder wheels, lathes, and portable power-driven machinery such as drills, sanders, floor polishers, and floor scrubbers.

Saws and guillotine shears (270.12(25)) –

- Students may operate or assist on these types of machines only if they are equipped with automatic feed and ejection. All other types are considered hazardous. "*Machines equipped with full automatic feed and ejection*" means machines that are equipped with devices for full automatic feeding and ejection and with a fixed barrier guard to prevent completely the operator or helper from placing any part of his body in the point-of-operation area.
- Setting up, adjusting, repairing and cleaning is allowable provided the tasks are completed electronically OR in a manner so that the youth is not accessing sharp or moveable parts.

Welding (270.13(15)) -

- Students may do light or spot welding.

Woodworking Power-Driven Machine Use (DWD 270.12(27)) -

Minors **cannot operate** power-driven woodworking machines:

- Operator of power-driven woodworking machines, including supervising or controlling the operation of these machines, feeding material into these machines, and helping the operator to feed material into these machines **except** placing of material on a moving chain or in a hopper or slide for automatic feeding.
- "Power-driven woodworking machines" means all fixed or portable machines or tools driven by power and used or designed for cutting, shaping, forming, surfacing, nailing, stapling, wire stitching, fastening, or otherwise assembling, pressing, or printing wood or veneer.

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