



### Youth Apprentices in Manufacturing

Manufacturing youth apprentices plan, manage and perform the processing of materials into products, and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering. There are three Manufacturing Pathways to choose:

#### Production Pathway

These program units provide the learner with skills necessary to work in any number of manufacturing facilities processing a variety of manufacturing materials. Includes:

- [Assembly and Packaging Unit](#)
- [Manufacturing Processes Unit](#)
- [Machining Unit](#)
- [Welding Unit](#)

#### Production Operations Management Pathway

This unit provides the learner with skills necessary to manage and maintain quality manufacturing operations.

#### Maintenance, Installation and Repair Pathway

This program unit provides the learner with skills necessary to work in heavy industrial equipment maintenance, repair and equipment installation and qualification operations.

### During the Youth Apprenticeship Program:

- On-the-job training takes place at a manufacturing employer with a verbal agreement to place successful students immediately into Apprenticeships.
- Students take related instruction at a local technical college or at local high school with courses/competences that match the Paid Related Instruction of the relevant Apprenticeship Program.

### Successful Outcomes:

- Placement into a Registered Apprenticeship.
- All or most hours worked as a Youth Apprentice are carried reviewed evaluated by Registered Apprenticeship sponsor (1000 hours average, with employer recommendation) to determine O-J-T credit for RA program.
- Evaluation for transcribed credit and Paid Related Instruction courses (144 hours average), with employer recommendation.

### Apprenticeship in three Industrial/Manufacturing Trades

#### Machinist

Machinists are highly skilled individuals who use machine tools, such as lathes, milling machines, and machining centers, to produce precision machined parts. Precision Machinists produce small batches or one-of-a-kind items. They use their knowledge of the working properties of materials and their skill with machine tools to plan and carry out the operation needed to make a variety of products that meet precise specifications.

#### Tool and Die Maker

Tool and die makers analyze specifications, lay out metal stock, set up and operate machine tools, and fit and assemble parts to make and repair dies, gauges, jigs, fixtures (devices that hold metal while it is shaped, stamped or drilled), gauges, and machinist's hand tools. Die makers construct metal forms (dies) to shape metal in stamping and forging operations.

#### Industrial Manufacturing Technician

IMT provides entry-level workers an overview of manufacturing, from operating equipment to participating in continuous improvement and understanding industry trends. As entry-level workers, the IMT apprentices begin a career pathway to other industrial skilled trades, such as Machinist and Industrial Electrician.