

Curriculum Resource

Apprenticeship in Manufacturing

OALCF Alignment

Competency	Task Group	Level
Competency A -Find and Use Information	A1. Read continuous text	2
Competency A -Find and Use Information	A2. Interpret documents	2
Competency B - Communicate Ideas and Information	B3. Complete and create documents	2
Competency D - Use Digital Technology	N/A	1

Goal Paths (check all that apply)

- Employment
- Apprenticeship
- Secondary School Credit
- Postsecondary
- Independence

Embedded Skills for Success (check all that apply)

- Adaptability
- Collaboration
- Communication
- Creativity and innovation
- Digital
- Numeracy
- Problem Solving
- Reading
- Writing

Notes: While all of the Skills for Success are described fully in this resource, participants will only actively practice Digital, Reading and Writing skills.

Original source material: Apprenticeship in Manufacturing

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CLO Researcher / Writer: Summer Burton

Note: Apprenticeship in Manufacturing was originally one in a series of five modules created by LLSC to support job seekers interested in a career in manufacturing. In addition to Apprenticeship in Manufacturing, other modules in the series include:

- Manufacturing: It's Made for You
- Essential Skills for Manufacturing
- Manufacturing Job Postings
- Dinner Is Served: An Introduction to Food Processing

Visit https://www.llsc.on.ca/skills_for_work to access these other modules, which have not been updated to reflect the Skills for Success.

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Objectives

By completing this module, you will learn:

- Important words and terms used in the skilled trades
- What apprenticeship is
- What the Skills for Success are, and how they are used in manufacturing
- Some of the apprenticeship opportunities that exist in a manufacturing environment



“An apprenticeship is a pathway to a rewarding career in the trades. As an apprentice, you take classes and learn your trade by working under the direction of experienced workers – and get paid while you do it.”

Source: [Government of Ontario](#)

Key Terms

There are several words used in apprenticeship that you should know about. You will find all of them in this resource. Familiarize yourself with the following terms so you know what they mean.

- Skilled trades – jobs that require specialty knowledge and training, and often involve hands-on work.
- General labourer – someone working in a skilled trades environment, but who is not apprenticing in a specific trade. Sometimes also called a trades helper.
- Apprentice – someone who is learning a skilled trade from someone fully certified in that trade.
- Journeyman – someone fully certified in their chosen skilled trade.
- Sponsor – an employer who agrees to hire an apprentice and teach them a skilled trade. Sometimes also called a mentor.
- Training standards – a document that outlines every hands-on task that an apprentice needs to do as part of their on-the-job training.
- Curriculum standards – a document that outlines every lesson and task that an apprentice needs to do as part of their classroom training
- Certification – the credential someone earns when they have completed their training and meet all the requirements to practice their trade. Sometimes also called a license or ticket. Note: there are several different kinds of certifications.
- Certificate of Apprenticeship – the certificate that is issued to an apprentice who has successfully completed all the elements of both their on-the-job and in-school training.
- Certificate of Qualification – the certificate that is issued to an apprentice or journeyman who has passed a final certification exam in their skilled trade.
- Red Seal – recognition a skilled tradesperson can earn by writing an additional, optional exam. With a Red Seal, you can work in your skilled trade anywhere in Canada. Note: not every trade offers Red Seal certification.
- Sector – a grouping of similar skilled trades. There are four sectors that offer apprenticeship training.
- Compulsory – something that is necessary or required.
- Non-compulsory – something that is optional.

Manufacturing and Apprenticeship

Manufacturing is thriving in communities across Ontario, helping grow the economy and providing a lot of job opportunities. As more companies build factories, the role of manufacturing in employment will grow.

If you are interested in working in manufacturing, there are many opportunities available to you. You will probably start in a general labour position. That is a job that gives you experience in a factory and an opportunity to show your employer what a good worker you are. After you've gained skills and knowledge from working as a general labourer in the manufacturing industry, you might want to train to do one of the specialized jobs that you will see happening at your workplace.



Maybe you will see people welding pieces of metal together. Maybe you will see people punching codes into the robotic machines. Jobs like these are a very important part of the manufacturing industry. Some of these jobs require special training and for you to pass certification exams. Most of them are higher-paying jobs than those in general labour. You might want to consider learning how to do one of these jobs and earning your own certification.

You might decide to go to school to learn how to do one of these jobs. For many jobs in manufacturing, you can also learn by becoming an apprentice. Apprenticeship is a type of training where you learn how to do a job both in a classroom and in a work environment. One of the unique things about learning to do a job through an apprenticeship is that you get paid for your on-the-job training. You won't earn as much as a certified journeyman, but being able to earn while you learn is a great opportunity!

Most of apprenticeship training happens on-the-job, but you will still need to go to school. While there are fees to attend the courses you need, the Ontario Government helps pay for part of your tuition. That means it is much less expensive than it would be if you took courses without being an apprentice.

They Apprenticeship System in Ontario

There are some important things to know about apprenticeship to help you decide if it's the right path for you.

There are over 140 different jobs that you can train for as an apprentice. All of these jobs fall into one of these four sectors:

- Construction
- Industrial
- Motive
- Service

Construction trades are focused on building. People who work in the construction sector do jobs related to building houses, stores, schools, hospitals and factories.

Industrial trades are focused on manufacturing products. People who work in the industrial sector often build, fix and use machines and parts to create products.

Motive trades are focused on the machines that transport people or things. People who work in the motive sector build and fix motorcycles, cars, farm equipment and heavy machinery.

Service trades are focused on working with or for people. People who work in the service sector help others with things like their personal care, growth and development, and even their plants and animals! Chefs, cooks and bakers also work in the service sector.

Apprenticeship training in each of these sectors is broken into levels. Most apprenticeships take between three and five years to complete and require two or three levels of in-class training. When you complete all of your on-the-job and in-class training, you will earn a **Certificate of Apprenticeship** to show that you are now certified to work in your chosen trade anywhere in Ontario! Many trades also offer a final exam. Passing that exam will earn you a **Certificate of Qualification**.

After earning either a Certificate of Apprenticeship or Certificate of Qualification, you may want to take another exam. If you pass it, you can earn a “**Red Seal**” for your certificate. The Red Seal is special because if you have one, you can move anywhere in Canada and your certification will be recognized. Without it, if you move outside of Ontario you may have to do more training and take your certification exams again. Not all skilled trades offer a Red Seal, but there are 56 trades that do.

There are 23 **compulsory** trades in Ontario. The only way you can work in one of these trades is by either being an apprentice or completing your apprenticeship and becoming a journeyman. Some examples of compulsory trades are plumber, electrician and hairstylist.

In the compulsory trades, you need to earn a Certificate of Qualification to be certified to work in the trade. Once you have earned it, you need to renew it every year.

There are 121 **non-compulsory** trades in Ontario. You do not need to be a registered apprentice or a certified journeyman to work in these trades. You can still apprentice to learn each of these trades, however. Some examples of non-compulsory trades include cook, industrial electrician and child development practitioner.

Some non-compulsory trades offer certifying exams and Certificates of Qualification, but not all of them do.

Here are some interesting facts about apprenticeship and the skilled trades from the Government of Ontario. They show what a great opportunity becoming an apprentice can be. There are many jobs available in the skilled trades, and they are becoming more and more important all the time.



Source: <https://www.ontario.ca/page/skilled-trades>

Skills for Success in Manufacturing

To be an apprentice and work in the skilled trades, you will need the Skills for Success. They are the skills you need for learning, work and life. Whether you are working as a general labourer, apprenticing in a specific trade, supervising other people, or running a manufacturing business, you will need these skills.

The Skills for Success are:

1. Adaptability
2. Collaboration
3. Communication
4. Creativity and innovation
5. Digital
6. Numeracy
7. Problem solving
8. Reading
9. Writing

Let's look at how each of the nine Skills for Success are used in manufacturing.



Adaptability

Adaptability is shown in many different ways. In a busy manufacturing environment, you will need to:

- adjust your personal schedule so you can be on time for your shifts
- ignore distractions so you can focus on your job
- anticipate that changes will happen, and you will need to learn how to do things in new ways
- recognize that things don't always go as planned and not give up when that happens
- stay calm and try to maintain a positive attitude when you face problems at work
- learn from your setbacks and mistakes and look for opportunities to improve
- set goals, and figure out a step-by-step plan for how to achieve them
- prioritize work tasks and decide what order to complete them in

Pause here, and think about how you have been adaptable in the past. If you are working with a tutor or instructor, talk with them about these skills too!

There are many opportunities to collaborate when you work in manufacturing. You will need to:

- work as part of a team to complete job tasks, recognizing that others are counting on you
- recognize and accept that some people you work with will have different backgrounds, values, abilities and ways of doing things than you do
- handle conflict with coworkers in a mature, respectful way
- share your thoughts and encourage other members of the team to share theirs as well
- talk about different ways you and other team members can improve your work
- offer to help others when they need it



Communication

Good communication is important for any team, and in manufacturing it's also critical for health and safety. You will need to:

- listen carefully and pay attention when other people are speaking
- recognize that the way people communicate includes not just words, but also tone of voice and body language
- ask questions or sum up key points to confirm if you understood what other people said
- think critically about what you heard
- speak clearly, using words that other people can understand
- change the way you speak to get your message across to different audiences
- make smart choices about what information you share, and with who

Pause here, and think about how you have used collaboration or communication skills in the past. If you are working with a tutor or instructor, talk with them about these skills too!



Creativity and innovation

Creative thinkers bring innovative and original ideas to the manufacturing sector, coming up with new products and processes and introducing technology like robotics to the workplace. To help manufacturing change and grow you will need to:

- be open to new ideas and interested in learning things you don't know
- come up with new ways of solving common problems
- think about ways you could do things differently than you do now
- imagine possibilities instead of limits
- experiment and try new things to see what happens
- be comfortable with, and learn from, failure



Digital

Technology is changing the way people work, particularly in the manufacturing sector. You will need to:

- recognize the names of different digital devices and understand what they do
- use computers, tablets, smartphones and other handheld devices on the job
- use common software and apps to complete your work including email, web browsers and online meeting platforms
- navigate through digital resources like instruction manuals, client databases and digital inventories
- keep hardware in good working order and software updated
- be safe and protect both your company and personal information online
- learn how to use advanced or specialized digital technology specific to the manufacturing sector

Pause here, and think about how you have been creative or used digital skills in the past. If you are working with a tutor or instructor, talk with them about these skills too!



Numeracy

Numeracy is a very important part of all skilled trades, including those in the manufacturing sector. At the least, you will need to:

- understand and feel comfortable with addition, subtraction, multiplication and division
- recognize and work with decimals and fractions
- understand concepts like mass, area and volume
- measure using both imperial (inches, feet, ounces or pounds) and metric (centimeters, meters, grams or kilograms)
- use logic to estimate numbers (for example, the number of boxes you need to pack an order)
- use exact formulas (for example, to calculate the number of supplies you need or how long a task will take)
- double check your work to see if it is correct, and your answers makes sense
- share numerical information with others verbally, in writing, in diagrams or on graphs



Problem solving

Problems happen both at work and at home. To effectively solve them, you will need to:

- recognize when problems happen and identify specifically what they are
- think about how you would like the situation to be different
- research and brainstorm different ways to solve the problem
- talk to your employer or coworkers about the problem and ask for help
- come up with a plan for solving the problem and break it into small, actionable steps
- put your plan into motion and see what happens
- be prepared to try a different solution if the first one doesn't work

Pause here, and think about how you have used numeracy or problem-solving skills in the past. If you are working with a tutor or instructor, talk with them about these skills too!



Reading

Reading and understanding written text and visuals is very important. In manufacturing, you will need to:

- read a variety of written text (for example, training material, textbooks, articles, instruction manuals, user guides and charts)
- review graphics and diagrams (for example, WHMIS warning symbols)
- understand the words and concepts being communicated in what you've read or seen, including manufacturing-specific tools, processes and terms
- follow written instructions and diagrams to do your work correctly
- review large amounts of written text to find specific information
- compare information from a variety of documents and identify similarities and differences
- think about what you've read and how it applies to the job you are doing



Writing

When working in manufacturing, you will fill out paperwork, track your hours and supplies, and write notes or emails to your coworkers or employer. This means that you will need to:

- use correct spelling, punctuation and grammar, writing in full sentences and paragraphs with headings and subheadings
- use bullet points, numbered lists, charts, tables or graphs to share information
- fill out workplace documents (for example, accident report forms, order forms or timesheets) using computer programs, apps, and paper-based documents
- make sure your handwriting is clear so that others can read it
- write using appropriate language for your audience
- use manufacturing-specific words and terms
- proofread and correct your writing for grammar, spelling, or clarity

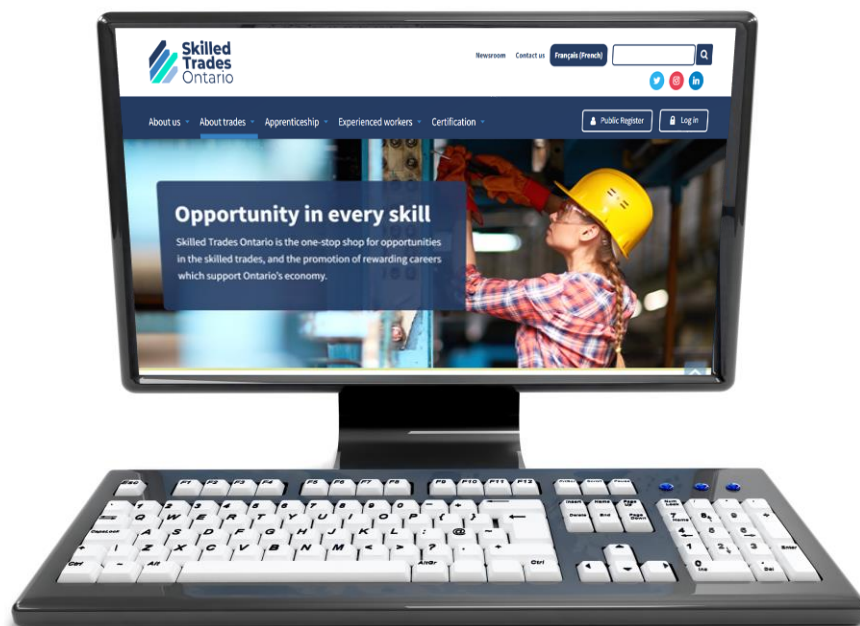
Pause here, and think about how you have used reading or writing skills in the past. If you are working with a tutor or instructor, talk with them about these skills too!

Skilled Trades Ontario

The organization called [Skilled Trades Ontario](#) is responsible for overseeing the skilled trades in Ontario, including:

- establishing apprenticeship programs, including training standards, curriculum standards and certification exams
- issuing Certificates of Qualification in all trades with certifying exams
- renewing Certificates of Qualification in compulsory trades
- maintaining a public register of people authorized to work in compulsory trades
- conducting research related to apprenticeship and the trades

The Skilled Trades Ontario website profiles all of the different jobs that offer apprenticeship training. On that website, you can learn more about jobs in each of the four sectors, for both compulsory and non-compulsory trades. You can also learn about the different kinds of certifications that are available for the various trades.




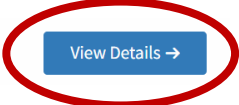
Activity – Using the Skilled Trades Ontario Website

Go to the Trades Information page on the Skilled Trades Ontario’s website using this link:

<https://www.skilledtradesontario.ca/about-trades/trades-information/>

Scroll down to the list of all of the trades. You will see that there are 144!

Look for 'Agricultural Equipment Technician', and click the blue “view details” button to read about this trade. Then, answer the questions below.

Agricultural Equipment Technician	425A	Non-compulsory	Yes		
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Is this trade compulsory or non-compulsory?

How many hours of on-the-job work experience is required in this trade? _____

How many hours of in-school training is required in this trade? _____

Does this trade offer a Certificate of Apprenticeship? Yes No

Does this trade offer a Certificate of Qualification? Yes No

Does this trade offer a Red Seal exam? Yes No

What sector do you think this job might fit into*? _____

* The sector is not identified on the Skilled Trades Ontario website. Look at the list of sectors on page seven of this resource and decide which one makes the most sense to you.

What Apprenticeship Might Interest You?

There are 27 trades in the industrial sector, most of which are directly related to manufacturing. Three of them are:

- Tool and Die Maker
- General Machinist
- Industrial Mechanic Millwright

The Government of Ontario introduces each of these three skilled trades by asking some questions about peoples' interests.

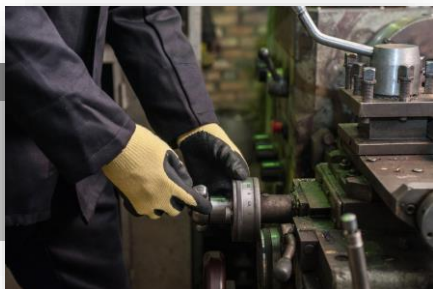
Question: Are you into the latest gadgets, machines, tools and technology?

The trades of **Industrial Mechanic Millwright** and **Construction Millwright** might be for you. Millwrights install and ensure that construction and/or mechanical equipment works and stays working.

Some of the skills involved in this job include understanding different pressure systems and using cutting-edge robotics, machinery and equipment to test equipment.



Question: Are you a detail-oriented, visual person with a great understanding of blueprints and diagrams?



You might be great as a **Tool and Die Maker** or a **General Machinist**. These two specialty trades help create the parts and tools for manufacturing.

They both involve extreme attention to detail, metalwork, and understanding of complex machinery and precision tools.

Activity – Learn About Three Skilled Trades

The Skilled Trades Ontario website offers an overview of what you will learn on the job and in class if you choose an apprenticeship as a Tool and Die Maker, a General Machinist or as an Industrial Mechanic Millwright.

A link to each overview has been provided below. Take time to read about what each job involves and consider which one you think is the most interesting. When you have read the description of each job, answer the questions below and on the following page.

Tool and Die Maker

<https://www.skilledtradesontario.ca/trade-information/tool-and-die-maker/>

General Machinist

<https://www.skilledtradesontario.ca/trade-information/general-machinist/>

Industrial Mechanic Millwright

<https://www.skilledtradesontario.ca/trade-information/industrial-mechanic-millwright/>

Which of the three jobs sounds most interesting to you?

Why did this job interest you? _____

Is this trade compulsory or non-compulsory?

How many hours of on-the-job work experience is required in this trade? _____

How many hours of in-school training is required in this trade? _____

Does this trade offer a Certificate of Apprenticeship? Yes No

Does this trade offer a Certificate of Qualification? Yes No

Does this trade offer a Red Seal exam? Yes No

What sector do you think this job might fit into*? _____

* The sector is not identified on the Skilled Trades Ontario website. Look at the list of sectors on page seven of this resource and decide which one makes the most sense to you.

Think about the Skills for Success. Pick three that you think you would use in this trade and describe how you think you would use those skills.

Skill for Success #1: _____

How I would use that skill: _____

Skill for Success #2: _____

How I would use that skill: _____

Skill for Success #3: _____

How I would use that skill: _____

Employment Ontario Services

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If you would like to develop stronger Skills for Success or need assistance finding an employer in the manufacturing sector, there are free programs that can help.

Employment services offered through Employment Ontario can help guide you through the job search process. You can find a local service by going to this page of the Employment Ontario website: <https://www.ontario.ca/page/employment-ontario>

Adult learning programs offered through Employment Ontario can help you develop and practice all of the Skills for Success, including communication, numeracy, interpersonal and digital skills. You can find a local service by going to this page of the Employment Ontario website:

<https://www.ontario.ca/page/adult-learning-literacy-and-basic-skills>



Reflection

Now that you have completed this resource, check off the things that you know:

- Important words and terms used in the skilled trades
- What apprenticeship is
- What the Skills for Success are and how they are used in manufacturing
- Some of the apprenticeship opportunities that exist in a manufacturing environment