



**Skilled
Trades**
Ontario

**Métiers
spécialisés**
Ontario

Apprenticeship
Schedule of Training
Logbook

Process Operator - Power

246R

2006

Apprenticeship Training Standard

The Apprenticeship Training Standard or herein after referred to as “Logbook” is a document issued to Apprentices who sign a Registered Training Agreement in the Province of Ontario as an official record of training. It is to be used by the Apprentice and Sponsor/trainer to guide the process of skills development in a particular trade.

Training As An Apprentice

- ✓ Ensure you, your sponsor, and your witness sign a Training Agreement with the Ministry of Labour, Immigration, Training and Skills Development. Once it is registered, you will receive a copy of the registered Training Agreement for your records.
- ✓ Notify the local Service Delivery Office **immediately** if any changes to contact information or training agreement, especially if you change sponsors.
- ✓ Review the Logbook regularly with your trainer and sponsor to discuss your progress, ask questions, seek feedback and have the trainer **sign-off on competencies**
- ✓ Keep an accurate record of the hours you work.
- ✓ Attend classroom training when it is offered.
- ✓ Apply for the financial incentives for which you are eligible.



Completing Your Logbook

- ✓ **Complete the Sponsor Record Form** – A form must be completed for each Sponsor/Trainer used during your apprenticeship.
- ✓ **Confirm Skill Sign-off is Complete**
 - **You and your trainer** sign-off each required skill to confirm that you have demonstrated competency in that skill.
 - Shaded boxes in your Logbook mean the skills are optional and do not have to be confirmed by your trainer or sponsor. However, you are encouraged to complete them as part of your training.
- ✓ **Confirm Skill Set Sign-off is Complete**
 - After you and your trainer have signed-off all the required skills in a skill set, your sponsor signs the signature box on the form in **Appendix C – “Skill Set Completion for Sponsors”** to confirm your completion of all competencies within each skill set.

This document is the property of the apprentice named inside and represents the official record of your training. For information about completing your apprenticeship, see inside of back cover.



Apprentice Name: _____

Address: _____

Phone Number: _____

Email Address: _____

Trade: _____

Training Agreement # (for Compulsory and Non-Compulsory trades):

STO Account No. (for Compulsory trades only):

This document is the property of the Apprentice named herein and represents the official record of their training.

If you have questions about the use of this Logbook or about your Apprenticeship program, contact your local Service Delivery Office (see Appendix D in this book) or the Employment Ontario hotline at: 1-800-387-5656.

Apprenticeship Pathway to a Certificate of Qualification

Phase 1: Registration

Submit Application for Apprenticeship Training through the on-line portal or to local Service Delivery Office

For on-line portal, please follow instructions for registration. You will need to create a *My Ontario* account to access online services.

Training agreement signed and registered by both apprentice and sponsor

Access your Apprenticeship Training Standard Logbook**
skilledtradesontario.ca/about-trades/trades-information

** This is the official record of your training progress. You are responsible for keeping it up-to-date.

Complete on-the-job training

Demonstrate and receive sign-off on the competencies/skills in your Apprenticeship Training Standard Logbook

Complete in-school training

Attend and complete the in-class training set out in the Curriculum Training Standard

Apprentices eligible to apply for apprenticeship incentive grants (Red Seal trades) and loans.

Review and finalize your logbook with your sponsor

Submit proof of apprenticeship completion via email, in-person or digital portal

Your Apprenticeship Training Standard Logbook details completion requirements. Submit the following:

- completed Apprenticeship Training Standard Logbook with signatures
- proof of hours

Certificate of Apprenticeship is issued

Trades without examination

CofA is the final step of the program

Trades with examination (compulsory and non-compulsory trades)*

Provisional Certificate of Qualification issued for a 12 month term

To prepare for the CofQ examination download the Provincial and/or Red Seal Exam preparation guides.

Make payment for your Certificate of Qualification examination

Call to make a payment (647-847-3000 or 1-855-299-0028)

Schedule a date to write your Examination

To schedule your examination, contact your local Service Delivery Office.

Pass Certificate of Qualification examination

Apprentices eligible to apply for Apprenticeship Completion Grant (Red Seal trades) or Apprentice Completion Bonus (non-Red Seal)

Certificate of Qualification is issued

Upon completion, Sponsors may be eligible for Apprenticeship grants, incentives, bonuses or tax credits

Phase 2: Apprenticeship

Phase 3: Certification

* For a list of trades subject to a certification examination, visit: skilledtradesontario.ca

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Please Note: This Standard has been revised to reflect the visual identity of Skilled Trades Ontario (STO) which replaced the Ontario College of Trades on January 1, 2022. The content of this Standard may refer to the former organization; however, all trade specific information or content remains relevant and accurate based on the original date of publishing.

Please refer to STO's website: skilledtradesontario.ca for the most accurate and up to date information. For information about BOSTA and its regulations, please visit [Building Opportunities in the Skilled Trades Act, 2021 \(BOSTA\)](#).

Any updates to this publication are available on-line; to download this document in PDF format, please follow the link: Skilled Trades Ontario.ca.

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Foreword: Purpose, Terms and Conditions of the registered Training Agreement

Purpose:

- Prior to starting official apprenticeship activities, the apprentice, sponsor and a witness are required to sign a Training Agreement.
- The Training Agreement that you have signed is an important legal document that outlines your responsibilities as an apprentice and the responsibilities of your sponsor.
- Once registered, this training agreement (or contract) marks the start of your formal agreement between the apprentice, the sponsor and the Ministry.
- For compulsory trades, the apprenticeship registration document must be accessible when working.

The Apprentice agrees:

- **To inform the local Service Delivery Office of any change to your contact information or change in sponsor within 7 days;**
- To follow the Sponsor's and Trainer's lawful instructions and make every effort to acquire the skills identified in the Logbook for the Trade which is part of the apprenticeship program established by Skilled Trades Ontario for the trade;
- To obtain written verification from the Sponsor and the Trainer(s) that the requirements in the Logbook for the trade have been met.
- When you receive an "Offer of Classroom Training", confirm your attendance by following the instructions in the offer. Failure to do so may result in losing your opportunity to attend school which delays the completion of your apprenticeship.

The Sponsor agrees:

- To ensure that the Apprentice is provided with the training required as part of the apprenticeship program established by Skilled Trades Ontario for this trade;
- To review the progress of training with the Apprentice, and with the Trainer(s) where the Sponsor and the Trainer are not the same party.
- Release your apprentice from work to attend in-school training without penalty to the apprentice.
- To maintain the journeyperson/apprentice ratio for your trade, if applicable.
- To monitor their apprentice(s) progress
- To ensure that the Trainer(s) verifies, in writing, when each skill identified in the Logbook for the trade has been successfully completed by the Apprentice;
- To contact the Ministry should any changes in your capacity to train, your contact information, or your apprentice's status in the program change.

Trade Specific Resources and Links

Trade Specific Resource	Link
Red Seal Program	red-seal.ca
Apprenticeship in Ontario	ontario.ca/page/apprenticeship-ontario
Employment Ontario	employmentontario.ca
Service Canada	servicecanada.gc.ca
<i>Building Opportunities in the Skilled Trades Act, 2021</i>	Building Opportunities in the Skilled Trades Act, 2021, S.O. 2021, c. 28 - Bill 288 (ontario.ca)
Ministry of Labour, Immigration, Training and Skills Development	Ministry of Labour, Immigration, Training and Skills Development ontario.ca
Exam Preparation Guide	Exam Resources – Skilled Trades Ontario
Skills Zone (Ontario Skills Passport)	http://www.skillszone.ca/

**Please note, all website addresses are current at time of printing*

Methodology-Standard Development

A standard is developed with a broad group of trade representatives who form the initial working group. This includes subject matter experts/ tradespeople/ instructors and employers from a cross section of the sector/industry, with varying years of work experience in the field. The working group reviews, develops and recommends revision to the content of the standard. Their role also involves harmonizing and updating other supporting content for the product.

An essential part of the standard development is the validation process. This is the opportunity to have a broader representation of the sector provide feedback on the content of draft standard. This process is conducted in various ways and may include sending out a survey or the draft document (or both) directly to the sector. The comments received are reviewed by the working group and revisions are made as required based on a consensus model.

Introduction to the Logbook

This “on-the job” Logbook is the training standard for Process Operator – Power 246R and was developed by Skilled Trades Ontario in consultation with representatives from industry. It identifies all the skills associated with and required to learn the trade.

The Logbook is divided into skill sets, which are further divided into skills. These skill sets and skills are written in statements that describe what the Apprentice must perform and to what standard, in order to be considered competent in that skill.

The successful performance of these skills is tracked in the Logbook. Once achieved, this skills’ sign-off, along with the completion of in-school program requirements or equivalent, is how the apprenticeship program is completed and apprentices receive a Certificate of Apprenticeship.

The Sponsor/trainer and Apprentice are required to sign-off and date each skill after the Apprentice has demonstrated proficiency in these skills. However, if a skill is shaded, it is optional and does not need to be signed-off, though it has been defined as a part of the scope of practice for the trade.

All practices described in this standard must be performed by the apprentice according to the specific criteria identified. In general, the standard of performance for this trade is to be performed according to all applicable jurisdictional codes and standards and all health and safety standards must be respected and observed.

All skills within the Apprenticeship Training Standard are to be performed, as applicable, according to and in compliance with the following:

- Occupational Health and Safety Legislation and Regulations;
- Other applicable legislation, regulation, codes and standards;
- Industry best practices;
- Company policies and procedures.

The information presented in this standard is, to the best of our knowledge, current at time of printing and is intended for general application. Please refer to the Skilled Trades Ontario website for the most accurate and up-to-date information: skilledtradesontario.ca

Roles and Responsibilities

Under the [Building Opportunities in the Skilled Trades Act, 2021 \(BOSTA\)](#)

Skilled Trades Ontario (STO) is responsible for:

- Establishing and maintaining qualifications;
- Establishing Apprenticeship Programs and other training programs including training Standards, curriculum standards and certifying examinations;
- Issuing certificates for the purposes of this Act such as Certificates of Qualification;
- Maintaining a Public Registry for compulsory trades skilledtradesontario.ca/public-register/;
- Determining whether the experience and qualifications obtained by applicants for a certificate of qualification who do not complete an apprenticeship are equivalent to those received through completing an apprenticeship (Trade Equivalency Assessments)
- Promoting the skilled trades and conducting research.
- Conducting research and evaluate whether a trade should be prescribed as a trade for the purposes of this Act and to make recommendations on these matters to the Minister.

Ministry of Labour, Immigration, Training and Skills Development (MLITSD)

is responsible for:

- Classifying trades as compulsory trades;
- Prescribing scopes of practice for trades;
- Approving which persons may provide in-class training for apprenticeship programs (TDAs);
- Registering Training Agreements;
- Providing those who successfully complete an apprenticeship program with a certificate of apprenticeship (CofA);
- Administering examinations, including certifying examinations;
- Promoting the skilled trades and conducting research;
- Exercising such other powers and perform such other duties and functions as are provided for in this Act or the regulations.

For any matter related to your registered Training Agreement or completing your apprenticeship, you must contact your local Service Delivery Office.

Roles and Responsibilities of the Apprentice

An Apprentice is an individual who has entered into a registered Training Agreement (refer to Foreword: *“Purpose, Terms and Conditions of TA” page 1*) with a Sponsor to receive training in a trade as part of an apprenticeship program established by Skilled Trades Ontario. As an Apprentice, you have certain roles and responsibilities to follow throughout your apprenticeship training:

1. As an Apprentice, you signed the Training Agreement and have entered into a contract with the Ministry of Labour, Immigration, Training and Skills Development and your Sponsor.
2. If you are registered as an Apprentice in a compulsory trade, your name will automatically appear in the Skilled Trades Ontario Public Register.
3. You are responsible for informing the staff at your local Service Delivery Office regarding changes to the following:
 - Your Sponsor’s address;
 - Your name and address; and/or,
 - Your Sponsor, including starting employment with a new Sponsor
4. As an Apprentice, you are responsible for completing skills or skill sets in this Logbook (as detailed in the *“Eligibility for Apprenticeship Program Completion”* section of this document) and ensuring that they are dated and signed by both you and your Trainer.
5. Once you have demonstrated competency in all the mandatory skills and received a sign off on each skill by your sponsor/trainer, you must have the Skill Set Completion Form completed and signed by your current Sponsor.
6. Submit your Logbook to your local Service Delivery Office.
7. Present your Apprentice Completion Form (Please refer to Appendix B), along with your authorized Logbook to your local Service Delivery Office.

Roles and Responsibilities of Sponsors and Trainers

Sponsors are responsible for ensuring all terms are met as per the registered Training Agreement. They are named on the registered Training Agreement as the entity responsible for ensuring Apprentices receive the training required as part of an apprenticeship program. As a signatory to this agreement, they are designated as the 'Signing Authority' for the Apprentice's Skill Set Completion Form and are required to attest to successful achievement by signing the appropriate box at the completion of each skill set. Some sponsors may also act as the Trainer.

A **Trainer** is an individual who oversees the performance of a task and sets the workplace expectations and practices for the Apprentice.

In compulsory trades, a Trainer must hold a valid Certificate of Qualification and be registered with Skilled Trades Ontario.

In non-compulsory trades, a Trainer is an individual who holds one of the following:

- A Certificate of Qualification;
- A Certificate of Apprenticeship in the trade; or,
- Has completed both the workplace-based training (competencies and/or hours as applicable) and classroom training components of the trade's apprenticeship program; or,
- Has workplace experience equivalent to the apprenticeship program) and has the skills outlined in the Logbook.

Competency means being able to perform to the required standard (please refer to *"Introduction to the Logbook"*). Trainers/Sponsors and Apprentices are required to sign-off and date the skills in the Logbook following each successful acquisition. The Logbook forms a record of this achievement.

The Trainer must provide their signature based on their assessment and professional judgment that the apprentice is competent in the skills described above. The Trainer's signature is not a general warranty or guarantee of the apprentice's future conduct.

Sponsors participating in this training program will be designated as the Signing Authority and are required to attest to successful achievement by signing the appropriate box included at the end of each skill set.

Health and Safety

Safe working procedures and conditions, accident prevention and the preservation of health are of primary importance for apprenticeship programs in Ontario. These responsibilities are shared and require the joint efforts of government, sponsors, employers, supervisors, workers, apprentices and the public to achieve the goal of making Ontario's workplaces safe and healthy.

The [Occupational Health and Safety Act](#) (OHSA) provides us with the legal framework and the tools to do this. It sets out the rights and duties of all parties in the workplace, placing ultimate responsibility on the employer for the health and safety of workers (in this case apprentices) by ensuring procedures, controls, and training are established for dealing with workplace hazards. Therefore, it is imperative that all parties become aware of circumstances that may lead to injury, illness or harm. Safe learning experiences and environments can be created by controlling the variables and behaviours that may contribute to or cause an accident injury or illness.

A sponsor who is not the employer is reminded that the employer has legal responsibilities respecting health and safety over the apprentice who is their worker. The sponsor should encourage safe work habits and adherence to the employer's occupational health and safety requirements for the workplace.

It is generally recognized that a positive attitude about safety in partnership with health and safety competency contributes to an accident-free environment. Everyone will benefit as a result of a healthy attitude towards the prevention of accidents.

Workers and apprentices can be exposed to a multitude of hazards and, therefore, should be familiar with the Occupational Health and Safety Act and regulations.

The Internal Responsibility System:

One of the primary purposes of the Occupational Health and Safety Act (OHSA) is to facilitate a strong Internal Responsibility System (IRS) in the workplace. To this end, the OHSA lays out the duties of employers, supervisors, workers, apprentices, constructors and workplace owners.

Workplace parties' compliance with their respective statutory duties is essential to the establishment of a strong IRS in the workplace.

Simply put, the IRS means that everyone in the workplace has a role to play in keeping workplaces safe and healthy. Workers and apprentices in the workplace who see a health and safety problem such as a hazard or contravention of the OHSA in the workplace have a statutory duty to report the situation to the employer or a supervisor. Employers and supervisors are, in turn, required to address those situations and acquaint workers with any hazard in the work that they do.

The IRS helps support a safe and healthy workplace. In addition to the workplace parties' compliance with their legal duties, the IRS is further supported by well-defined health and safety policies and programs, including the design, control, monitoring and supervision of the work being performed.

Roles and Responsibilities under the Occupational Health and Safety Act

Employer's Responsibilities include but are not limited to the following:

- Instruct, inform and supervise workers and apprentices to protect their health and safety.
- Appoint competent persons as supervisors.
- Inform a worker, apprentice, or a person in authority, about any hazard in the workplace and train them in the handling, storage, use, disposal and transport of any equipment, substances, tools, material, etc.
- Take every precaution reasonable in the circumstances for the protection of a worker/apprentice.
- In workplaces in which more than five workers are regularly employed, prepare and post a written occupational health and safety policy and set up and maintain a program to implement it.
- Prepare and post policies with respect to workplace violence and workplace harassment and develop programs supporting workplace harassment and workplace violence policies.
- Ensure knowledge of applicable legislative, regulatory, codes and standards so requirements to be followed are clear to all workers/apprentices.

Trainer/Supervisor Responsibilities include but are not limited to the following:

- Ensure that a worker or apprentice works in compliance with the Act and regulations.
- Ensure that any equipment, protective device or clothing required by the employer is used or worn by the worker or apprentice.
- Advise a worker/apprentice of any potential or actual health or safety dangers known by the supervisor.
- Take every precaution reasonable in the circumstances for the protection of workers.

Worker/Apprentice Responsibilities include but are not limited to the following:

- Work in compliance with the Act and regulations.
- Use or wear any equipment, protective devices or clothing required by the employer.
- Report to the employer or supervisor any known missing or defective equipment or protective device that may endanger the worker or another worker.
- Report any hazard or contravention of the Act or regulations to the employer or supervisor.
- Not remove or make ineffective any protective device required by the employer or by the regulations.
- Not use or operate any equipment or work in a way that may endanger any worker.

The Three Rights of Workers/Apprentices

The OHSA gives workers and apprentices three important rights:

1. The right to know about hazards in their work and get information, supervision and instruction to protect their health and safety on the job.
2. The right to participate in identifying and solving workplace health and safety problems either through a health and safety representative or a worker member of a joint health and safety committee.
3. The right to refuse work that they believe is dangerous to their health and safety or that of any other worker in the workplace.

Ministry of Labour, Immigration, Training and Skills Development

The Ministry of Labour, Immigration, Training and Skills Development conducts periodic inspections of workplaces to ensure that safety acts and regulations are being followed. Please direct any questions to the Occupational Health and Safety Contact Centre at 1-877-202-0008.

Apprenticeship Program Summary/Guidelines

Scope of Practice

The Scope of Practice for the trade of Process Operator - Power is set out in section 110 of Ontario Regulation 875/21 under BOSTA and reads as follows:

110. The scope of practice for the trade of process operator — power includes operating, monitoring, adjusting and maintaining processing systems and equipment by doing the following:

1. Performing operator and outside operator duties and satellite control room operations.
2. Operating electronic or computerized control panels.
3. Controlling process start up and shut down and performing troubleshooting duties.
4. Monitoring outside process equipment.
5. Adjusting equipment, valves, pumps and controls, and process equipment.
6. Completing required maintenance documentation.
7. Preparing process units or production equipment for maintenance.
8. Sampling, testing and preparing reports on process operations.
9. Participating in safety audits and programs and providing emergency response.

*While the Logbook draws on the scope of practice regulation (Section 110 of Ontario Regulation 875/21 under BOSTA). The Logbook does not purport to add to or modify the scope of practice as provided in regulation. *

Program Guidelines

On-the-Job Training Duration

Industry has identified 5760 hours as the benchmark necessary for any Apprentice to become competent in the skills required. There may be circumstances in which the duration varies from this guideline.

In-Class Training Duration

Industry has identified 720 hours of in-school training as the duration necessary for an Apprentice to complete the in-school curriculum for this program.

Total Training Hours

6480 hours

Journeyman to Apprentice Ratio

Industry Recommended Ratios: While some of the trades regulated under BOSTA are subject to Journeyman to Apprentice ratios set out in regulation, this trade is not one of them. Instead, **industry has recommended a Journeyman to Apprentice ratio guideline of 1 Journeyman (or individual who is deemed equivalent to a journeyman) to 1 Apprentice** as the ratio necessary for an Apprentice to be properly trained on the job in this program.

Program Requirements

Compulsory and Non-compulsory Classification

Regulations under the *Building Opportunities in the Skilled Trades Act, 2021*, classify each trade as either “compulsory” or non-compulsory.” This trade is non-compulsory.

It is the responsibility of an Apprentice to maintain a training record in the form of a Logbook. The Sponsor and Trainer are required to sign-off when competencies in the trade are achieved.

Skills for Success Summary

Skills for Success are needed in a quickly changing world for work, learning and life. They are foundational for building other skills and important for effective social interaction. Everyone benefits from having these skills as they help individuals get a job, progress at their current job and change jobs. They also help individuals become active members of their community and succeed in learning.

Through extensive research and consultations, the Government of Canada launched the new Skills for Success model renewing the previous Essential Skills framework to better reflect the needs of the current and future labour market.

The occupational specific Essential Skills profiles are available online. These will be updated over time to align with the new Skills for Success model found here: [Skills for Success model](#)

Standard of Performance

A Process Operator: Power operates, monitors, adjusts and maintains processing systems and equipment by:

- Performing operator and outside operator duties and satellite control room operations;
- Operating electronic or computerized control panels;
- Controlling process start up and shut down and performing troubleshooting duties;
- Monitoring outside process equipment;
- Adjusting equipment, valves, pumps and controls, and process equipment;
- Completing required maintenance documentation;
- Preparing process units or production equipment for maintenance;
- Sampling, testing and preparing reports on process operations;
- Participating in safety audits and programs, and providing emergency response

A Process Operator Power is knowledgeable in:

Mathematics	Valves
Instrumentation Control	Power Plant Operations
Plant Science	Compressors
Introduction to Distillation	Distillation
Piping and Auxiliaries	Electrical Equipment
Chemistry	Environmental Protection
Process Operations	Radiation Protection
Troubleshooting	Filtration and Screening
Reactor Fundamentals	Heat Exchangers
Pumps	Operator Responsibilities
Reading Diagrams	

They are employed by coal, gas, hydro and nuclear power generation utilities.

Benchmark/Guideline Total Training Timeframes: (On-The-Job And Off-The-Job):

6480 hours

Includes a minimum of 720 hours of in-school or equivalent correspondence training.

In general, the standard of performance for the trade of Process Operator - Power are to be performed, as applicable, according to and in compliance with the following:

Industry Safety Standards which are based upon:

- Occupational Health and Safety Legislation and Regulations;
- Jurisdictional legislation and regulations, codes and standards (municipal bylaws etc.)
- Company policies and procedures
- All applicable manufacturers specifications and engineering specifications

Training the Apprentice - Tips for Apprentices, Sponsors and Trainers

Tips for Apprentices

Remember, it takes time to learn. The following is a list of additional tips and tools to help make the most of your apprenticeship training:

- Practice safe work procedures early to create good habits;
- Use your Logbook as a journal to keep track of the skills you have achieved;
- Review your training plan with your Training Consultant, Trainer, or Sponsor;
- Discuss your training needs with your Trainer and/or Sponsor;
- Listen to the suggestions of your Trainer;
- Ask your Trainer questions if you are unsure of any skill you need to perform or any tools or equipment you need to use to perform your duties;
- Show enthusiasm and develop good work habits; and,
- Upon demonstration of competency, ensure that you and your Trainer sign-off the individual skills.

To get the most from this mentoring experience, request exposure to the full scope of the trade; meet regularly with your Sponsor/Trainer to discuss your progress, ask questions and seek feedback.

Tips for Sponsors

- Select Trainers with good communication skills and who work well with others;
- Ensure that the Apprentice always works under the direction of or has access to a qualified Trainer;
- Encourage Trainers to take upgrading courses (e.g. Train the Trainer, Mentor, Coach, etc.);
- Set out clear expectations and involve both the Apprentice and Trainer in developing the training plan
- Encourage safe work habits;
- Allow time for the Trainer to train and demonstrate skills to the Apprentice;
- Provide opportunities and time for the Apprentice to learn the trade;
- Ensure that the Apprentice receives the varied on-the-job trade training experience outlined in this document;
- Recognize good performance;
- Observe frequently;
- Provide constructive feedback and conduct regular performance reviews involving the Apprentice and Trainer;
- Use the Logbook as a monitoring tool and a part of regular performance evaluations; and,
- Complete the Skill Set Completion Form once the Apprentice has demonstrated competency in the skills.

- The detailed content listed for each skill is not intended to represent an inclusive list; rather, it is included to illustrate the intended direction for the skill acquisition.

Tips for Trainers

Trainers are responsible for ensuring the Apprentice is developing the skills outlined in this document. Here is a list of tips and tools to help Trainers in their supervision of Apprentices:

- Demonstrate model safe work habits;
- Provide opportunities and time for the Apprentice to learn the trade;
- Treat Apprentices fairly and with respect;
- Review the Logbook with the Apprentice and develop a training plan;
- Set out clear expectations and recognize good performance;
- Expose Apprentices to the full scope of the trade by providing training on the skills outlined in this document;
- Encourage and respond to all questions;
- Be patient;
- Explain, show and demonstrate the skill;
- **Meet regularly with the Apprentice to discuss the apprentice's progress**
- Provide continuous feedback;
- Sign-off skills when your Apprentice demonstrates competency, and,
- Use the Logbook as a guide to evaluate competence in each skill area. By using the Logbook, Trainers will be able to guide the process to and assist Apprentices to develop skills outlined in this document.

The best mentoring experience is when an Apprentice is given as much training/exposure to the full scope of the trade as possible. If this is not possible, help them to determine other ways this may be possible.

Notice of Collection of Personal Information

1. At any time during your apprenticeship training, you may be required to show this Logbook to the local Service Delivery Office. You will be required to submit the signed Apprenticeship Completion form to the Service Delivery Office in order to complete your program. The Service Delivery Office will use your personal information to administer and finance Ontario's apprenticeship training system, including confirming your completion and issuing your Certificate of Apprenticeship.
2. The Service Delivery Office will disclose information about your program completion and your Certificate of Apprenticeship to Skilled Trades Ontario, as it is necessary for Skilled Trades Ontario to carry out its responsibilities.
3. Your personal information is collected, used and disclosed by the Ministry of Labour, Immigration, Training and Skills Development under the authority of the *Building Opportunities in the Skilled Trades Act, 2021 (BOSTA)*.
4. Questions about the collection, use and disclosure of your personal information by the Ministry may be addressed to the:

Manager, Employment Ontario Contact Centre
Ministry of Labour, Immigration, Training and Skills Development
33 Bloor St. E, 2nd floor, Toronto, Ontario M7A 2S3
Toll-free: 1-800-387-5656; Toronto: 416-326-5656
TTY: 1-866-533-6339 or 416-325-4084

List of Trainers

Trainer's Name (Please Print)	Trainer's Signature	Date of start with Trainer (day/month/year)

On-The-Job Training: General Performance Objectives

246R01.0 Demonstrate Safe Working Practices and Procedures

General Performance Objective

Demonstrate safe working practices and procedures by identifying and taking corrective action against potential workplace health and safety hazards; handling, storing and disposing of hazardous workplace materials; complying with workplace legislation relating to health and safety; wearing and maintaining personal protective equipment, practicing good housekeeping in the workplace and applying lock out and tag out procedures in accordance with relevant legislation, manufacturer’s recommendations and company policies.

Skills

246R01.01 Take corrective action against potential workplace health and safety hazards including: noxious fumes and dust, high intensity light, fires, elevated work sites, suspended loads, poor lighting, extreme temperatures, inadequate ventilation, confined spaces, untidy work sites and uncontrolled power sources so that the potential for personal injury and damage to equipment and the environment are minimized in accordance with applicable manufacturer’s instructions, government regulations and company policies.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor.**

246R01.02 Handle, store and dispose of hazardous workplace materials including lead, gases, acids and solvents so that individuals are protected from injury, the environment from contamination and safety practices are followed in accordance with WHMIS, OHS, manufacturer’s instructions and company procedures and policies.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R01.03 Comply with workplace legislation relating to health and safety including the Workplace Hazardous Materials Information Systems (WHMIS) guidelines and the *Occupational Health and Safety Act*.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R01.04 Wear and maintain personal protective equipment including eye, ear, hand, respiratory, body and foot protection, ensuring that correct fit and optimum protection is provided to the wearer for the specific task performed in accordance with applicable government regulations, manufacturer’s specifications and company policy.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R01.05 Practice good housekeeping in the workplace by ensuring that the workplace is clean, organized and free of obstructions, spills or fire hazards; that materials and equipment are cleaned and stored in designated areas after use and that protective barriers, UV shields and guards are erected so that accident or injury potential is minimized.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R01.06 Apply lockout and tag procedures and de-energizing procedures to electrical, mechanical, hydraulic and pneumatic equipment before commencing maintenance and overhaul, in accordance with the CEC, the BPVR, the OHSa, manufacturers' instructions and company policies and procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R02.0 Employ Job Information Resources

General Performance Objective

Employ job information resources by determining in-house operation and maintenance requirements; interpreting electrical, mechanical and structural blueprints; communicating with co-workers; writing reports; maintaining service documents; and preparing work orders so that the information needed to plan and complete maintenance activities is made available and used.

Skills

246R02.01 Determine operation and maintenance requirements by researching codes, manuals, manufacturers’ specifications and recommendations, warranties, preventive maintenance schedule sheets and government regulations; identifying system and component types, capacities, tolerances and limitations, safety procedures, replacement procedures and in-house maintenance and licensing limitations; updating maintenance inspection routines and locating any other necessary information to complete the job in accordance with all regulations and company procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor.**

246R02.02 Communicate with co-workers, supervisors, company representatives and other tradespersons by personal communication, telephone, postal service/letter and e-mail, ensuring that information delivered is concise, clear and accurate and is in accordance with company procedures or practices.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R02.03 Write work reports including standard work documentation as well as safety reports, injury reports, environmental reports and maintenance charts by completing them manually or using a computer system, ensuring that written reports are concise, detailed, clear, accurate and timely, in accordance with company practices or procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R02.04 Maintain service documents including service call sheets, work orders, work performance sheets and log books, ensuring that all procedures and maintenance tasks are documented and recorded in accordance with employer’s specifications and company procedures or practices.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R03.0 Use and Maintain Tools and Equipment

General Performance Objective

Use and maintain hand tools, measuring devices and testing and troubleshooting devices by using and maintaining trade-specific hand tools and associated equipment, measuring devices and testing and troubleshooting devices for mechanical, hydraulic and pneumatic systems so that tools, equipment and devices are used for their intended purpose and are maintained at a standard of repair that is safe and functionally effective.

Skills

246R03.01 Use and maintain hand tools including hammers, wrenches, screwdrivers and pliers by determining the correct tool for the job, selecting the tool and required components, documenting use in a tool-control system, testing it, applying it to the job, replacing consumables and repairing or replacing user-maintainable parts so that tools are used for their intended purpose and are maintained at a standard of repair that is safe and functionally effective.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor.**

246R03.02 Use and maintain measuring devices including those for temperature, pressure, level and flow by determining the correct device or equipment for the job, selecting the device and required components, setting up the device, testing it, applying it to the job, identifying deficiencies, replacing any consumables and repairing or replacing user-maintainable parts so that devices are used for their intended purposes and are maintained at a standard of repair and accurate calibration that is safe and functionally effective.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R03.03 Use and maintain testing and troubleshooting devices for pressure, hydraulic and pneumatic systems including temperature, pressure, level and flow gauges, and analyzers for gas concentration, liquid concentration, density and specific gravity measurements by determining the correct device or equipment for the job, selecting the device and required components, setting up the device, testing it, monitoring and adjusting its operation, recording results, replacing consumables and repairing or replacing user-maintainable parts so that the devices are used for their intended purposes and are maintained at a standard of repair and accurate calibration that is safe and functionally effective.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R04.0 Operate a Control Panel

General Performance Objective

Operate a control panel by monitoring and running analogue, electronic or computerized control panels and optimizing physical and chemical processes for multiple processes in accordance with process requirements, company standards and manufacturers' specifications.

Skills

246R04.01 Monitor and run analogue, electronic or computerized control panels from a control room or local control panel in accordance with government regulations, company standards and manufacturers' specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor.**

246R04.02 Monitor and optimize physical and chemical processes for multiple processes in accordance with company standards and process requirements.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R05.0 Control Process Operations

General Performance Objective

Control process operations by starting up, shutting down and performing troubleshooting procedures on process operations in accordance with government and company procedures and standards.

Skills

246R05.01 Start up and shut down process operations in accordance with government and company procedures and standards.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor.**

246R05.02 Perform troubleshooting procedures on process operations in accordance with company procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R06.0 Monitor Process Operation

General Performance Objective

Monitor outside process equipment in accordance with government regulations and company procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor.**

246R07.0 Unload and Load Process Materials

General Performance Objective

Unload and load process materials by starting and stopping pumps and controlling pressurizing vessels or otherwise removing materials raw materials from tank trucks, railcars, and other containers and load finished products into appropriate transportation in accordance with company procedures and standards.

Skills

246R07.01 Unload raw materials by starting and stopping pumps and controlling pressurizing vessels or otherwise removing materials from tank trucks, railcars, and other containers in accordance with company procedures and standards.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor.**

246R07.02 Load finished products into appropriate transportation in accordance with company procedures and standards.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R08.0 Maintain Process Equipment

General Performance Objective

Maintain process equipment by operating, adjusting, troubleshooting and servicing distillation units, ion exchange columns, filters, valves, pumps and controls, heat exchangers, piping systems, electrical systems, vacuum systems, evaporation units, and related field instrumentation in accordance with company standards and specifications.

Skills

246R08.01 Operate and adjust process equipment such as distillation units, ion exchange columns, filters, valves, pumps and controls, heat exchangers, piping systems, electrical systems, vacuum systems, evaporation units, and related field instrumentation in accordance with manufacturer’s specifications and company standards and specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor.**

246R08.02 Maintain the operation of process equipment such as distillation units, ion exchange columns, filters, valves, pumps and controls, heat exchangers, piping systems, electrical systems, vacuum systems, evaporation units, and related field instrumentation by troubleshooting and servicing them in accordance with manufacturer’s specifications and company standards and specifications

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R09.0 Maintain Vessels

General Performance Objective

Maintain vessels by inspecting, cleaning and repairing storage, mixing, blending, decanting, oxidation, hydrogenation, pressure, and vacuum vessels in accordance with company standards and specifications.

Skills

246R09.01 Inspect storage, mixing, blending, decanting, oxidation, hydrogenation, pressure, and vacuum vessels in accordance with government regulations and company standards and specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor.**

246R09.02 Clean and repair storage, mixing, blending, decanting, oxidation, hydrogenation, pressure, and vacuum vessels in accordance with government regulations and company standards and specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R10.0 Control Chemical Composition

General Performance Objective

Control chemical composition by identifying properties, reactions, temperatures, pressures, and chemical analysis; handling, storing, and transferring chemicals; preparing chemicals through weighing, mixing and blending; monitoring yields and balances; and running batch operations in accordance with required procedures and methods and company procedures and standards.

Skills

246R10.01 Determine properties, reactions, temperatures, pressures, and chemical analysis of chemical constituents in accordance with standard procedures and methods.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor.**

246R10.02 Handle, store, and transfer chemicals in accordance with government regulations and company procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R10.03 Prepare chemicals through weighing, mixing and blending in accordance with company procedures and methods.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R10.04 Monitor yields and balances of chemical mixtures in accordance with standard procedures and methods.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R10.05 Run batch operations in accordance with required procedures and methods and company procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R11.0 Prepare for Scheduled Maintenance

General Performance Objective

Prepare for scheduled maintenance by shutting down, isolating and preparing process units and production equipment and repairing or servicing them in accordance with company procedures and standards.

Skills

246R11.01 Shut down, isolate and prepare process units and production equipment in accordance with company procedures and standards.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor.**

246R11.02 Repair or service process units and production equipment in accordance with company procedures and standards.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R12.0 Carry Out Process Control Procedures

General Performance Objective

Carry out control procedures on process operations by sampling products, performing tests, recording data and completing required documentation in accordance with a Statistical Process Control system or company procedures and standards.

Skills

246R12.01 Sample products and perform tests in accordance with company procedures and standards.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor.**

246R12.02 Record data and complete required documentation in accordance with a Statistical Process Control system or company procedures and standards.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R13.0 Carry Out Electrical Switching Procedures

General Performance Objective

Operate, monitor and troubleshoot electrical generation and distribution equipment including gas Combustion Turbine Units and diesel generators, 500KV/230KV circuit breakers and disconnect switches, 13.8/4.16/0.6/0.12 KV circuit breakers and ground test devices, 250/125/48/45 VDC power distribution systems, and related field instrumentation. Perform inspection and test procedures in accordance with company standards and specifications.

Skills

246R13.01 Operate, monitor and troubleshoot electrical generation and distribution equipment including gas Combustion Turbine Units and diesel generators, 500KV/230KV circuit breakers and disconnect switches, 13.8/4.16/0.6/0.12 KV circuit breakers and ground test devices, 250/125/48/45 VDC power distribution systems, and related field instrumentation in accordance with appropriate regulations and company standards and specifications..

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor.**

246R13.02 Perform inspection and test procedures in accordance with appropriate regulations and company standards and specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

246R14.0 Handle Nuclear Materials

General Performance Objective

Assess, monitor, prepare and handle nuclear materials by identifying properties and chemical analysis, and by following required procedures and methods including batch operations, weighing, measuring, storing, and transferring in accordance with company and government procedures and standards.

Skills

246R14.01 Assess and monitor nuclear materials by identifying properties and chemical analysis and by following required procedures and methods including batch operations, weighing and measuring in accordance with company and government procedures and standards.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

*** A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor.**

246R14.02 Prepare and handle nuclear materials by following required procedures and methods including storing and transferring in accordance with company and government procedures and standards

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

Curriculum Learning Outcomes

In-school training is a maximum of 720 hours or may be completed by approved, self-paced correspondence learning.

1. Mathematics

The apprentice is able to solve mathematical problems using:

- addition, subtraction, multiplication, division, fractions and decimals
- conversion tables, rates, charts, graphs and trends
- equations, algebraic applications and formulas

2. Instrumentation Control

The apprentice is able to explain in detail the following concepts and procedures relating to instrumentation control:

- process instrumentation, reading instruments
- pressure, temperature, level and flow measurement; analytical measurements
- liquid and gas concentration analysis; density and specific gravity analysis; clarity analysis; humidity and moisture analysis
- basic instruments; transmitters and transducers; recorders; indicators and protective devices; controllers; final control elements
- process control concepts; feed-back/feed-forward control; process dynamics; two position and proportional control; reset and rate control; PID control; digital control; control loops; PLCs; control systems; information displays and control system operation

3. Plant Science

The apprentice is able to explain and solve problems in:

- science principles; units of measurement; force and motion; work power and efficiency; basic machines
- matter; properties of solids, liquids, gases, and flowing fluids; heat; temperatures; latent heat
- modes of heat transfer; heat transfer between fluids; heat exchanger operation; systems
- fluid basics; liquid systems; gas and vapour systems
- basic process measurement; process dynamics
- basic electricity; electricity, magnetism and alternating current; electric motors; transformers and solenoids; basic circuits; electrical systems operation

4. Introduction to Distillation

The apprentice is able to describe:

- distillation principles; distillation systems
- towers, and equipment; types of distillation towers

5. Piping and Auxiliaries

The apprentice is able to identify and explain the application of:

- piping and auxiliaries; pipe supports and expansion devices;
- insulation and heat tracing
- protective devices; steam traps; and, draining and filling fluid systems

6. Chemistry

The apprentice is able to explain chemical action relating to:

- limiting factors; material balancing; reaction rates; catalysts
- equilibrium reactions; chemical reactions
- compounds and mixtures; solutions and concentrations

7. Process Operations Troubleshooting

The apprentice is able to describe the procedures relating to implementation of:

- process operations and troubleshooting; the process of elimination
- troubleshooting procedures and examples; troubleshooting control systems

8. Nuclear Reactor Fundamentals

The apprentice is able to describe:

- reactor principles; basic reactor design
- reactor operations

9. Pumps

The apprentice is able to identify and describe:

- types of pumps; pump auxiliaries
- inspection of an operating pump
- reciprocating pumps; rotary pumps
- reciprocating pump start-up and shut-down; rotary pump start-up and shut down
- centrifugal pump parts and functions; single stage centrifugal pumps; multistage centrifugal pumps
- single stage centrifugal pump start-up and shut-down; and, multistage centrifugal pump start-up and shut-down

10. Reading Diagrams

The apprentice is able to:

- Identify and read diagrams
- describe flow diagrams; piping diagrams
- describe instrumentation and electrical diagrams

11. Valves

The apprentice is able to identify and describe the operation of:

- valves; gate, globe, angle, and needle valves
- plug, ball, and butterfly valves
- diaphragm, pinch, and check valves
- relief and safety valves
- actuators; pneumatic actuators; electric actuators; hydraulic actuators

12. Nuclear/Hydro/Gas Power Generation Plant Operations

The apprentice is able to describe power generation plant operations:

- equipment and systems
- processes
- operators

13. Compressors

The apprentice is able to describe:

- compressor design
- compressor operation

14. Distillation

The apprentice is able to describe

- basic principles of distillation
- basic system components and operation
- towers, reboilers, and condensers

15. Electrical Equipment

The apprentice is able to describe and explain:

- electricity production and distribution
- breakers, switches, and safety
- AC/DC motors
- motor controllers and protective relaying logic

16. Environmental Protection

The apprentice is able to describe:

- air pollution, water pollution
- waste disposal procedures (Canadian applications)

17. Radiation Protection

The apprentice is able to describe:

- radioactive activation, contamination and decay principles
- hazard measurement and compensatory strategies
- biological effects of ionizing radiation

18. Filtration and Screening

The apprentice is able to describe

- filtering and screening; screens;
- screen operations; cartridge filter operations; gravity and pressure filter operations; pre-coat filter operations

19. Heat Exchangers

The apprentice is able to describe:

- principles of heat transfer;
- shell and tube heat exchangers; applications and operations;
- cooling towers; cooling tower design, operation and chemical addition;
- condenser operations
- reboiler operations

20. Operator Responsibilities

The apprentice is able to describe:

- the operator's role; general outside operator responsibilities
- plant equipment maintenance roles
- general control room operator responsibilities
- how operators detect and use trends
- abnormal and emergency situations
- safety responsibilities
- data collection responsibilities
- production responsibilities
- interpersonal responsibilities

Definitions

Apprentice

- An individual who, pursuant to a registered Training Agreement, is receiving or is to receive training in a trade that is required as part of an apprenticeship program
- Holds a Training Agreement in either a compulsory or non-compulsory trade;
- Are subject to any ratios that have been set out in regulation and or recommended by industry for their trade(s);
- Remain as an Apprentice until they receive their Certificate of Apprenticeship

BOSTA

Building Opportunities in the Skilled Trades Act, 2021 (BOSTA)

Certificate of Apprenticeship (C of A)

A certificate issued to individuals who have demonstrated that they have completed an apprenticeship program in Ontario.

Certificate of Qualification (C of Q)

A certificate issued to an individual who has completed an apprenticeship or equivalent AND passed the Certificate of Qualification examination.

Competence

The ability of an individual to perform a skill, consistently without assistance, in the workplace as set out in the Logbook.

Competency Analysis Profile (CAP Chart)

A chart that identifies the training needs of an individual trade and details the skills/skill sets that must be demonstrated during an apprenticeship program.

Journeyman

Journeyman means an individual who holds a certificate of qualification (in a compulsory or non-compulsory trade) and/or an individual who practices as a journeyman in a non-compulsory trade who does not hold a certificate of qualification and has equivalent experience in that trade.

Mandatory Skill

Status assigned to unshaded individual skills, skill sets or general performance objectives which must be signed-off for the Apprentice to complete their program.

Optional Skill

Status assigned to shaded individual skills, skills sets or general performance objectives for which sign-off is not required for the Apprentice to complete the program.

Provisional Certificates of Qualification

- A Provisional Certificate of Qualification is issued to an individual who has obtained a Certificate of Apprenticeship (in both compulsory and non-compulsory trades) in a program that has a Certificate of Qualification examination, to which the individual has not yet passed the Certificate of Qualification examination.
- A Provisional Certificate of Qualification shall have the prescribed term or, if no term is prescribed, a term of one year.
- In a compulsory trade, the Provisional Certificate of Qualification allows a person to continue working legally in the trade for up to 12 months while they work to pass the certifying exam.
- Individuals with a Provisional Certificate of Qualification are subject to any ratios that have been set out for their trade(s).

Ratios

For the purpose of an Apprenticeship program, a ratio is the maximum number of Journeypersons to Apprentices. The purpose of ratios is to provide consistent supervision, training and continuity of work.

Sign-off

Signature of the Sponsor of record, or an individual to whom that Sponsor has delegated signing authority, (e.g. Trainer) indicating an Apprentice's demonstration of competence.

Skill

Individual competency/task described in the Logbook.

Skill Sets

Group or selection of individual skills found in the Logbook.

Skill Set Completion for Sponsors

Listing for all skill sets and includes space for sign-off by Sponsor of record.

Sponsor

Means a person that has entered into a registered Training Agreement under which the person is required to ensure that an individual is provided with workplace-based training in a trade as part of an apprenticeship program.

Sponsor of Record

Refers to the Sponsor documented as being signatory to the registered Training Agreement or Contract of Apprenticeship. In order for a Sponsor to be considered for the training of Apprentices, they must identify that the workplace has qualified persons or the equivalent on site, and can identify that the workplace has the tools, equipment, materials, and processes which have been identified by the Industry representatives for the trade.

Trainer

An individual who oversees the performance of a task and sets the workplace expectations and practices for the Apprentice. For a compulsory trade, a qualified Trainer is an individual who holds a Certificate of Qualification. In a non-compulsory trade, a Trainer is an individual who either holds a CofQ, CofA, or is considered equivalent.

Ready to Write Your Exam?

Many of the skilled trades in Ontario have a final certification examination that you must pass to become certified in your trade. Passing the examination gives you the right to hold yourself out as a Journeyman and receive a Certificate of Qualification in your trade.

There are two types of trade certification examinations in Ontario:

1. Provincial (Ontario) examinations - which lead to a Certificate of Qualification.
2. Red Seal examinations – which lead to a Certificate of Qualification with an Interprovincial Red Seal endorsement.

If a trade is designated as Red Seal in Ontario, you will be writing the Red Seal examination. To access the Red Seal preparation guide please visit: red-seal.ca

Ontario's Exam Preparation Guide

[Exam Resources – Skilled Trades Ontario](#)

Basic Examination Details for You to Know

- You will have **up to four hours to write your examination.**
- Accommodations must be requested and approved prior to scheduling your examination.
- You can leave the examination centre if you complete the examination in less than four hours.
- Exam questions are multiple choice with four options from which you must choose the correct answer. Your examination may have between 90 and 150 multiple choice questions.
- You need a mark of 70% to pass.

Scheduling Your Examination

The examination scheduling process is currently outlined in detail on the Skilled Trades Ontario website: [Exam Scheduling – Skilled Trades Ontario](#)

Remember these 3 basic steps:

1. Confirm your eligibility to write the examination with Skilled Trades Ontario.
2. Contact Client Services at Skilled Trades Ontario to pay your examination fee.
3. Contact the local Service Delivery Office to schedule your examination in their examination centre: <https://www.ontario.ca/page/employment-ontario-apprenticeship-offices>

Instructions for Recording a Change in Sponsor

1. Record your first sponsor's information in Sponsor Record #1 – this would be the sponsor who has signed your initial apprenticeship Training Agreement for this trade.
2. If you do change sponsors prior to completing this apprenticeship, please contact your local Service Delivery Office immediately to update your sponsor record.
3. Please make sure you record all the information regarding any additional sponsors of record towards your apprenticeship using the Sponsor Records on the following pages (if applicable).

You must fill out a Change of Sponsor Record each time you change your sponsor.

Sponsor Record #1

Sponsor Information		
Apprentice Name		
Training Agreement #		Date (mm/dd/yy)
Sponsor Name		
Address		
Telephone		
E-mail Address		

Summary of Training	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed	

As the Sponsor, I hereby confirm that the above information is true and accurate to the best of my knowledge.

Signature: _____ Date: (mm/dd/yy) _____

The Sponsor is required to sign-off and date the skills after the Apprentice has proven competence in those skills. However, if a skill is shaded, it is optional and does not need to be signed-off.

***If you need additional copies of the Sponsor Record, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Change of Sponsor Record #2

Sponsor Information		
Apprentice Name		
Training Agreement #		Date (mm/dd/yy)
Sponsor Name		
Address		
Telephone		
E-mail Address		

Summary of Training	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed	

As the Sponsor, I hereby confirm that the above information is true and accurate to the best of my knowledge.

Signature: _____ Date: (mm/dd/yy) _____

The Sponsor is required to sign-off and date the skills after the Apprentice has proven competence in those skills. However, if a skill is shaded, it is optional and does not need to be signed-off.

***If you need additional copies of the Sponsor Record, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Change of Sponsor Record #3

Sponsor Information		
Apprentice Name		
Training Agreement #		Date (mm/dd/yy)
Sponsor Name		
Address		
Telephone		
E-mail Address		

Summary of Training	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed	

As the Sponsor, I hereby confirm that the above information is true and accurate to the best of my knowledge.

Signature: _____ Date: (mm/dd/yy) _____

The Sponsor is required to sign-off and date the skills after the Apprentice has proven competence in those skills. However, if a skill is shaded, it is optional and does not need to be signed-off.

***If you need additional copies of the Sponsor Record, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Change of Sponsor Record #4

Sponsor Information		
Apprentice Name		
Training Agreement #		Date (mm/dd/yy)
Sponsor Name		
Address		
Telephone		
E-mail Address		

Summary of Training	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed	

As the Sponsor, I hereby confirm that the above information is true and accurate to the best of my knowledge.

Signature: _____ Date: (mm/dd/yy) _____

The Sponsor is required to sign-off and date the skills after the Apprentice has proven competence in those skills. However, if a skill is shaded, it is optional and does not need to be signed-off.

***If you need additional copies of the Sponsor Record, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Appendix A — Instructions for Apprenticeship Program Completion

Once an Apprentice has completed all the classroom training and benchmark on-the-job hours specified for the trade and has acquired all the mandatory skills included in this Logbook.

The Apprentice and the Sponsor complete the Apprentice Completion Form and the Skill Set Completion for Sponsors Form located on the following pages.

1. They sign the forms and submit them to their local Service Delivery Office. To find the closest office, check the contact information at ontario.ca/page/employment-ontario-apprenticeship-offices or call the Employment Ontario toll free number at (1-800-387-5656).
2. For All Trades: All mandatory skills (or the combination indicated in the completion requirements for the trade) in the Logbook must be signed-off. The recommended hours are a benchmark. If the Sponsor is completing the Apprentice before the industry recommended training hours are done, staff may request further information regarding the Apprentice's on-the-job training. An example of a request would be a letter from the Sponsor confirming the Apprentice worked for some time in the trade before the initial Training Agreement was registered, thereby acquiring some skills beforehand.

If Apprentices are submitting the completion request form and supporting documentation to their local Service Delivery Office by mail, fax, or email (as a scanned document), they should not include their Logbook; if they are presenting this form in person at the local Service Delivery Office, they should bring their Logbook with them.

After staff verifies all the information in the completion request, they may contact either the Apprentice or the Sponsor for further information or documentation. Once the completion has been confirmed, the local Service Delivery Office will issue a Certificate of Apprenticeship to the Apprentice.

Skilled Trades Ontario will receive notification of this completion.

- If the Apprentice has completed a program in a **compulsory trade**, Skilled Trades Ontario will automatically register the Apprentice for a Provisional Certificate of Qualification to continue to work legally for one year while preparing for the certification examination.
- If an Apprentice completes their apprenticeship in a **non-compulsory trade** and there is a Certificate of Qualification exam, they must write and pass the exam to receive a Certificate of Qualification from Skilled Trades Ontario.

For permission to schedule an exam once completion is confirmed, the individual must first contact the Skilled Trades Ontario Client Services Department at 647-847-3000 or toll free at 1-855-299-0028 to pay the certification examination fee. Once you have paid your exam fee with Skilled Trades Ontario, book your exam by contacting your nearest Employment Ontario local Service Delivery Office.

Appendix B — Apprentice Completion Form

Please fill out both sides of this form, including the Skill Set Completion for Sponsors (see back of form). Once both sides are completed, submit the form to your local Service Delivery Office (find contact information at ontario.ca/page/employment-ontario-apprenticeship-offices or by calling Employment Ontario at (1-800-387-5656).

Apprentice Information	
Name (print)	
Client ID # Issued by Ministry	
Telephone Number(s)	

Sponsor Information	
Legal Name	
Address	
Telephone Number(s)	
Sponsor's Signing Authority <i>(print name)</i>	
E-mail Address	

Program Information	
Trade Name	
Number of hours required as per Training Agreement <i>(hours-based trades only)</i>	
Hours completed? <i>(documentation attached)</i>	Yes () No () Not applicable ()
Classroom training completed or exempt?	Yes () No () Not applicable ()

I hereby confirm that the information submitted on both sides of this form is true and accurate.

X _____
Apprentice's Signature Date

X _____
Signature of Sponsor's Signing Authority Date

Appendix D — Local Service Delivery Offices in Ontario

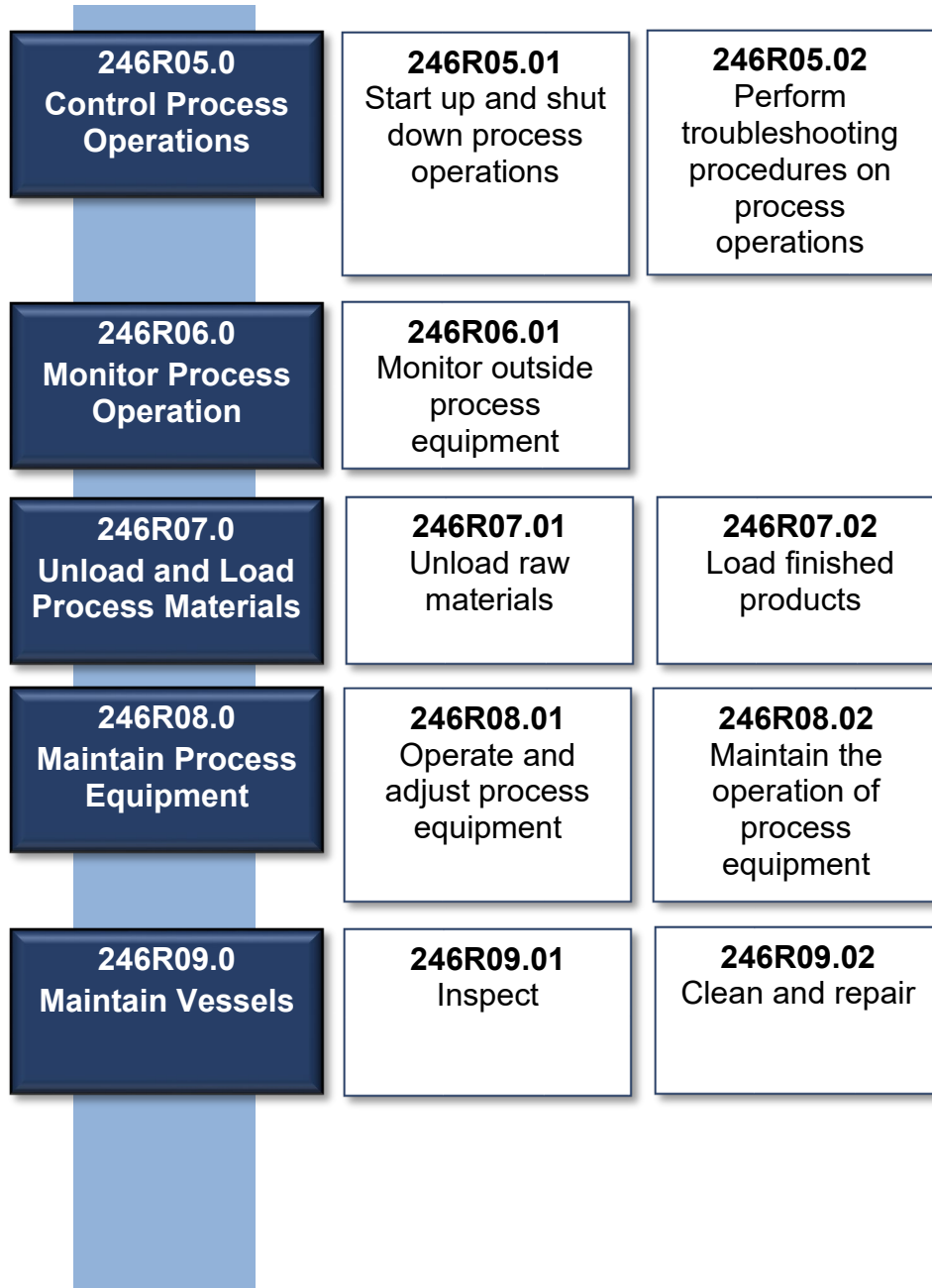
For current office listings visit: ontario.ca/page/employment-Ontario-apprenticeship-offices

Location	Contact	Location	Contact
Barrie 705-737-1431	55 Cedar Pointe Dr Unit 609, Barrie, ON L4N 5R7	Marathon 807-346-1550	52 Peninsula Road, Suite 103 Marathon, Ontario, P0T 2E0
Belleville 613-968-5558 1-800-953-6885	135 North Front St, Belleville, ON K8P 3B5	Markham 905-513-2695	140 Allstate Parkway, Suite 505, Markham, Ontario L3R 5Y8
Brantford 519-756-5197	505 Park Rd North Suite 201, Brantford, ON N3R 7K8	North Bay 705-495-8515 1-800-236-0744	200 First Ave West, North Bay, ON P1B 3B9
Chatham 519-354-2766 1-800-214-8284	870 Richmond St West 1st Floor, Chatham, ON N7M 5J5	Ottawa 613-731-7100 1-877-221-1220	Preston Square, 347 Preston Street, Suite 310, Ottawa, ON K1S 3H8
Cornwall 613-938-9702 1-877-668-6604	132 Second St East Ste 202, Cornwall, ON K6H 1Y4	Owen Sound 519-376-5790 1-800-838-9468	1450 1st Ave West, Suite 100, Owen Sound, ON N4K 6W2
Dryden 807-456-2665 1-800-734-9572	Provincial Government Building, 479 Government St, Dryden, ON P8N 3K9	Peel 905-279-7333 1-800-736-5520	The Emerald Centre, 10 Kingsbridge Garden Circle, Suite 404, Mississauga, ON L5R 3K6
Durham 905-433-0595 1-800-461-4608	78 Richmond Street West, Oshawa, ON L1G 1E1	Pembroke 613-735-3911 1-800-807-0227	615 Pembroke St East, Pembroke, ON K8A 3L7
Elliot Lake 1-800-236-8817	50 Hillside Dr North, Elliot Lake, ON P5A 1X4	Peterborough 705-745-1918 1-877-433-6555	901 Lansdowne St West, Peterborough, ON K9J 1Z5
Fort Frances 807-274-8634	922 Scott St 2nd Flr, Fort Frances, ON P9A 1J4	Sarnia 519-542-7705 1-800-363-8453	Bayside Mall, 150 Christina St North, Sarnia, ON N7T 7W5
Geraldton 807-854-1966	208 Beamish Avenue West Geraldton, Ontario P0T 1M0	Sault Ste. Marie 705-945-6815 1-800-236-8817	477 Queen St East 4th Flr, Sault Ste Marie, ON P6A 1Z5
Halton 905-842-5105 1-844-901-5105	700 Dorval Dr., Suite 201, Oakville, ON L6K 3V3	St Catharines 905-704-2991 1-800-263-4475	Garden City Tower, 301 St Paul St East, 10th Flr, St Catharines, ON L2R 7R4
Hamilton 905-521-7764 1-800-668-4479	Ellen Fairclough Bldg, 119 King St West 8th Flr, Hamilton, ON L8P 4Y7	Sudbury 705-564-3030 1-800-603-5999	159 Cedar St Ste 506, Sudbury, ON P3E 6A5
Kapuskasing 705-465-5785 705-235-1950	Ontario Government Complex, 122 Government Rd West, Kapuskasing, ON P5N 2X8	Thunder Bay 807-346-1550 1-800-439-5493	189 Red River Rd Suite 103, Thunder Bay, ON P7B 1A2
Kenora 807-468-2879 1-800-734-9572	227 1/2 Second St South, Kenora, ON P9N 1G4	Timmins 705-235-1950 1-877-275-5139	Ontario Government Complex, 5520 Highway 101 East Wing B, South Porcupine, ON P0N 1H0
Kingston 613-548-1151 1-866-973-4043	Alliance Business Centre, 299 Concession St Ste 201, Kingston, ON K7K 2B9	Toronto Centre 416-927-7366 1-800-387-5656	2 St Clair West, 11 th floor Toronto, ON M4A 1L5
Kitchener 519-653-5758 1-866-877-0099	4275 King St East, Kitchener, ON N2P 2E9	Toronto South 416-326-5800	625 Church St 1st Fl, Toronto, ON M7A 2B5
London 519-675-7788 1-800-265-1050	1200 Commissioners Rd E, Unit 72, London, ON N5Z 4R3	Windsor 519-973-1441	Roundhouse Centre, 3155 Howard Ave 2nd Fl, Suite 200, Windsor, ON N8X 4Y8

Competency Analysis Profile (CAP) Chart

<p>246R01.0 Demonstrate Safe Working Practices and Procedures</p>	<p>246R01.01 Take corrective action against potential workplace health and safety hazards</p>	<p>246R01.02 Handle, store and dispose of hazardous workplace materials</p>	<p>246R01.03 Comply with workplace legislation</p>	<p>246R01.04 Wear and maintain personal protective equipment</p>	<p>246R01.05 Practice good housekeeping in the workplace</p>
	<p>246R01.06 Apply lockout and tag procedures</p>				
<p>246R02.0 Employ Job Information Resources</p>	<p>246R02.01 Determine operation and maintenance requirements</p>	<p>246R02.02 Communicate with co-workers</p>	<p>246R02.03 Write work reports</p>	<p>246R02.04 Maintain service documents</p>	
<p>246R03.0 Use and Maintain Tools and Equipment</p>	<p>246R03.01 Use and maintain hand tools</p>	<p>246R03.02 Use and maintain measuring devices</p>	<p>246R03.03 Use and maintain testing and troubleshooting devices</p>		
<p>246R04.0 Operate a Control Panel</p>	<p>246R04.01 Monitor and run analogue, electronic or computerized control panels</p>	<p>246R04.02 Monitor and optimize physical and chemical processes</p>			

Competency Analysis Profile: Process Operator – Power 246R *(all unshaded skill sets must be completed)*



Competency Analysis Profile: Process Operator – Power 246R *(all unshaded skill sets must be completed)*

<p>246R10.0 Control Chemical Composition</p>	<p>246R10.01 Determine properties</p>	<p>246R10.02 Handle, store, and transfer chemicals</p>	<p>246R10.03 Prepare chemicals</p>	<p>246R10.04 Monitor yields and balances</p>	<p>246R10.05 Run batch operations</p>
<p>246R11.0 Prepare for Scheduled Maintenance</p>	<p>246R11.01 Shut down, isolate and prepare process units</p>	<p>246R11.02 Repair or service process units</p>			
<p>246R12.0 Carry Out Process Control Procedures</p>	<p>246R12.01 Sample products and perform tests</p>	<p>246R12.02 Record data</p>			
<p>246R13.0 Carry Out Electrical Switching Procedures</p>	<p>246R13.01 Operate, monitor and troubleshoot electrical generation and distribution equipment</p>	<p>246R13.02 Perform inspection and test procedures</p>			
<p>246R14.0 Handle Nuclear Materials</p>	<p>246R14.01 Assess and monitor nuclear materials</p>	<p>246R14.02 Prepare and handle nuclear materials</p>			

Competency Analysis Profile: Process Operator – Power 246R (all unshaded skill sets must be completed)

Learning Outcomes

1
Mathematics

2
Instrumentation
Control

3
Plant Science

4
Introduction to
Distillation

5
Piping and
Auxiliaries

6
Chemistry

7
Process
Operations
Troubleshooting

8
Nuclear Reactor
Fundamentals

9
Pumps

10
Reading
Diagrams

11
Valves

12
Nuclear/Hydro/
Gas Power
Generation Plant
Operations

13
Compressors

14
Distillation

15
Electrical
Equipment

16
Environmental
Protection

17
Radiation
Protection

18
Filtration and
Screening

19
Heat Exchangers

20
Operator
Responsibilities

Completing Your Apprenticeship Program

Once your sponsor agrees you are competent in the required skills, your hours are complete and you have completed all the levels of classroom training required for your trade:

- ✓ Follow the completion instructions on the Completion Form (Appendix A) in the Logbook.
- ✓ Answer any questions that MLITSD staff may have and provide any additional completion documentation that may be required.
- ✓ Once completion is confirmed, MLITSD will issue you a Certificate of Apprenticeship and notify Skilled Trades Ontario.

After Your Apprenticeship

If you are in a trade with a certification exam, Skilled Trades Ontario will receive notice of your completion.

For compulsory trades, you will be issued a Provisional Certificate of Qualification which will allow you to work legally for up to 12 months until you write and pass your examination.

For a non-compulsory trade, once you pass your examination, you will be issued a Certificate of Qualification for your trade.

Preparing For Your Exam

- **To pay for a Certificate of Qualification examination, contact Skilled Trades Ontario** Client Services Department at: 647-847-3000 or toll free at 1-855-299-0028
- **To schedule your exam:** Once you have paid, contact your local Service Delivery Office to book your exam.
- **Download Skilled Trades Ontario exam preparation guide at:** [Exam Resources – Skilled Trades Ontario](#) and/or view the exam preparation guide for Red Seal trades at: red-seal.ca



[SkilledTradesOntario.ca](https://www.skilledtradesontario.ca)