

Apprenticeship
Training Standard
Logbook

Network Cabling Specialist

631A

2014

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 <u>sign-off on competencies</u>
- 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.

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

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<u>Please Note:</u> 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: <u>skilledtradesontario.ca</u> for the most accurate and up to date information. For information about BOSTA and its regulations, please visit <u>Building</u> 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: <u>Skilled Trades Ontario.ca.</u>

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Maintained with transfer to Skilled Trades Ontario 2014 (V100)

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 |
| Building Opportunities in the Skilled Trades Act, 2021 | 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 Network Cabling Specialist 631A 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 <u>Building Opportunities in the Skilled Trades Act, 2021 (BOSTA)</u>

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 <u>skilledtradesontario.ca/public-register/</u>;
- 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.

A classroom instructor is not permitted to sign-off the skills contained within this Logbook.

In this trade a trainer must be competent in the skill, but it is not mandatory to be a member of Skilled Trades Ontario or have a Certificate of Qualification (CofQ).

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 Network Cabling Specialist is set out in section 96 of Ontario Regulation 875/21 under BOSTA and reads as follows:

- **96.** (1) The scope of practice for the trade of network cabling specialist includes installing and maintaining low voltage communication distribution systems or other signal sources to the terminal or equipment at the end of the distribution systems.
 - (2) The distribution systems referred to in subsection (1) comprise the physical architecture that supports voice, video and data transmissions within industrial, commercial, institutional and office complexes.
- *While the Logbook draws on the scope of practice regulation (Section 96 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 4000 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 600 hours of in-school training as the duration necessary for an Apprentice to complete the in-school curriculum for this program.

Total Training Hours

4600 hours

Journeyperson to Apprentice Ratio

Industry Recommended Ratios: While some of the trades regulated under BOSTA are subject to Journeyperson to Apprentice ratios set out in regulation, this trade is not one of them. Instead, industry has recommended a Journeyperson to Apprentice ratio guideline of 1 Journeyperson (or individual who is deemed equivalent to a journeyperson) 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

In general, the standard of performance for the trade of Network Cabling Specialist 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) |
|----------------------------------|---------------------|---------------------------------------------------|
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U5651.0 Protect Self and Others

General Performance Objective

Protect self and others by identifying health and safety hazards; wearing, adjusting and maintaining personal protective clothing and equipment; practicing safe work procedures; practicing good housekeeping; inspecting equipment; handling hazardous substances; operating lifting and rigging equipment; and, following company and client site-specific first aid procedures.

Skills

5651.01

Identify health and safety hazards including all site specific hazards, lock-out/ tag-out requirements, asbestos and confined work spaces, so that the potential for personal injury and damage to equipment, property or the environment is reduced, hazards are reported, and corrective action is taken, according to related legislation and company and client site-specific 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.

Wear, adjust and maintain personal protective equipment including eye, ear, body, head, hand and foot protectors, to ensure correct fit and optimum protection for the wearer and task being performed, according to company and client site-specific procedures and related legislation.

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

Practice safe work procedures by setting up guards and barricades; adhering to fall protection requirements, wearing close-fitting and un-torn clothing; confining long hair; and removing jewelry, according to company and client site- specific standards and related legislation.

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

Practice good housekeeping by cleaning up spills; keeping work area clean and clear of obstructions; handling and disposing of materials; and, storing tools or equipment; so that the potential for accident or injury is reduced and tools and equipment are in place, according to company and client site-specific standards and related legislation.

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

Inspect equipment to ensure that all hand and power tools, equipment and safety devices are in safe working condition, according to company and client site-specific standards, manufacturer specifications or recommendations and related legislation.

| mm/dd/yy | Trainer Print Name | *Trainer Signature |
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Handle hazardous substances including optical fibre, so that personnel are protected from injury and health hazards, that the site and surrounding environment is protected from contamination or damage, and procedures are followed according to Workplace Hazardous Materials Information System (WHMIS), Material Safety Data Sheets (MSDS) and related legislation.

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Operate lifting and rigging equipment for material and personnel including hoists, lifting devices, chain falls, lift pins, eye bolts, slings, cables and chains, to remove, install, transport and store materials, parts and equipment, according to company and client site-specific standards and related legislation.

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Follow first aid practices and emergency communications procedures by identifying location of emergency information, personnel and protocols; notifying related personnel; and, following first aid procedures; according to company or client site-specific standards and related legislation.

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U5652.0 Plan and Prepare for Installations

General Performance Objective

Plan and prepare for installations by co-ordinating pre-installation activities; selecting and verifying cable pathways and spaces; performing trade calculations; selecting hand tools; selecting power tools; and, selecting testing equipment.

Skills

5652.01

Coordinate pre-installation activities by reviewing and verifying drawings, specifications, scope of work, labeling schemes, job schedules, and personnel requirements; coordinating with other tradespeople or personnel; coordinating for job site access and waste disposal procedures; confirming material and tool storage area on site; locating or determining telecommunication room and equipment rooms; confirming job documentation, equipment requirements, site readiness and identifying discrepancies; verifying abandoned telecommunications cabling within existing or new client premises, utilizing copper and fibre test equipment, confirming infrastructure is free of active communication circuits; and removal of abandoned cabling; according to the Ontario Fire Code (OFC), the National Fire Code of Canada (NFCC), job and manufacturers' specifications, and company or client site-specific standards.

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

Select and verify cable pathways and spaces by verifying drawings and specifications; calculating conduit and box fill allowances; identifying routes, including raceways, aerial, underground, buried, and free air; and identifying plenum or non-plenum spaces; identifying Underwriters Laboratories of Canada (ULC) rated firestop systems, identifying building construction types including x- raying, scanning, and coring requirements; and, laying out and routing pathways; according to drawings and specifications, Canadian Electrical Code (CEC), Ontario Electrical Safety Code (OESC), Telecommunications Industry Association/Electronic Industry Alliance (TIA-EIA) standards, TIA-569-C, national and provincial building codes, OFC, job and manufacturers' specifications and company or client site-specific standards.

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Perform trade calculations including optical fibre link loss budget, length, scaling of drawings, attenuation and metric or imperial conversion, according to Canadian Electrical Installation Standards (CEIS)-568, TIA-568-C standards, job and manufacturers' specifications and company or client site-specific standards.

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Select hand tools including punchdown, measuring tools, crimpers, fasteners, screwdrivers, pliers, cutters, cable strippers, hole punch sets, fish tapes, cable grips, saws, conduit benders, and hole punches, optical fibre termination kits, lock-out/tag-out kits, by reading and interpreting drawings and specifications, and job requirements, ensuring that hand tool selected is the correct one for the application in accordance with manufacturers' specifications and company or client site-specific standards.

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Select power tools including optical fibre fusion splicer, drills, powder-actuated fastening tools, power saws, cutting tools and cable pulling devices, by reading and interpreting drawings and specifications, and job requirements; ensuring that power tool selected is the correct one for the application, is operational and ready for the job, according to manufacturers' specifications and company or client site-specific standards.

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Select testing equipment including copper and optical fibre, multi-meters, wireless and network certification testers, continuity and wire map testers, butt sets, tone generators and cable tracers, using information from job and manufacturers' specifications, to ensure that the testing equipment selected is the correct one for the application, is certified and is calibrated within manufacturers' specifications, is operational and ready for the job.

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U5653.0 Perform Cable Installations Inside and Outside Plant

General Performance Objective

Perform cable installations inside and outside plant by laying out and creating openings for cable pathways; laying out and installing raceways, raceway supports and cable supports; installing pulling medium in cable pathway; selecting, inspecting, and preparing cable for installation; installing optical fibre backbone cable (Cabling Subsystem 2 and Cabling Subsystem 3); installing copper backbone cable; installing optical fibre horizontal cable (Cabling Subsystem 1) and copper horizontal cable; installing firestop; and, dressing and labelling cables.

Skills

5653.01

Layout and create openings for cable pathways (inside plant) by reading and interpreting drawings and specifications; visually inspecting work area; setting up tools and equipment; laying out, drilling, coring and cutting; selecting and using hand or powered mechanical, electrical, and electronic tools or equipment; and, working with clients, co-workers and other tradespeople; so that the completed layout conforms to drawings and specifications, OESC, CEC, TIA-569-C, national and provincial building codes, job and manufacturers' specifications, and company or client site-specific standards.

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5653.02

Layout and create openings for cable pathways (outside plant) by reading and interpreting drawings and specifications; identifying utility location information; visually inspecting work area; setting-up tools and equipment; laying out, drilling, coring, cutting, trenching, directional boring and auguring; selecting and using hand or powered mechanical, electrical, and electronic tools or equipment; and, working with clients, co-workers, and other tradespeople; so that openings conform to drawings and specifications, TIA-758-B, OESC, national and provincial building codes, municipal, provincial and federal legislation, job and manufacturers' specifications, and company or client site-specific standards.

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5653.03

Layout and install raceways, raceway supports and cable supports (inside plant) including J-hooks, cable tray, conduit, seismic bracing, and duct by visually inspecting work area; climbing, hoisting and rigging; connecting, bolting, drilling, gluing, and boring: and, selecting and using hand tools and electrically or mechanically powered equipment; so that the installed cable supports conform to drawings and specifications, OESC, CEC, TIA-569-C, National and Provincial Building Codes, job and manufacturers' specifications, and company or client site-specific standards.

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5653.04

Layout and install raceways, raceway supports and cable supports (outside plant) including cable tray, conduit, support strands, duct, poles and guy wires by visually inspecting work area; climbing, hoisting and rigging; connecting, bolting, drilling, gluing, and boring; and, selecting and using hand tools and electrically or mechanically powered equipment; so that the installed raceways conform to drawings and specifications, TIA-758-B, CSA-C22.3, OESC, CEC, national and provincial building codes, municipal, provincial and federal legislation, job and manufacturers' specifications, and company or client site-specific standards.

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5653.05

Install pulling medium in cable pathway including rope, string, fish rod and fish tape by: visually inspecting work space; fishing, pulling, pushing, vacuuming, and gas injecting tools; laying the pulling medium; and, selecting and using hand, electrical or mechanical tools; so that the medium is installed in cable pathway according to layout codes and standards, Occupational Health and Safety Act (OHSA), municipal, provincial and federal legislation, job and manufacturers' specifications and company or client site-specific standards.

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Select cable for installation by determining media type including copper or optical fibre cable for type, size, length, fire rating and performance rating, ensuring that cable selected is the correct one for the application, in accordance with drawings and specifications, OESC, CEC, TIA-568-C, building codes, CSA, job and manufacturers' specifications and company or client site-specific standards.

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Prepare cable for installation by visually inspecting work area and cables; performing tests using electronic equipment including copper and optical fibre testing equipment; cutting and stripping cable; tying, taping, labelling, gripping and bolting cable to pulling device; and, selecting and using hand tools so that cable is prepared for installation, according to related codes and industry standards, job and manufacturers' specifications, company or client site-specific standards.

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Install optical fibre backbone cable (Cabling Subsystem 2 and Cabling Subsystem 3) (inside plant) by pushing and pulling; labelling cable according to selected pathways and cable supports; and, selecting and using cable stands, hand, electrical and mechanical tools, pulling lubricants, according to related codes and industry standards, job and manufacturers' specifications, and company or client site-specific standards.

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Install copper backbone cable (inside plant) by pushing, pulling, tying and tugging cable; labelling cable according to selected pathway and cable supports; and, selecting and using cable stands, hand, electrical and mechanical tools and pulling lubricants, so that cable is installed, according to related codes and industry standards, job and manufacturers' specifications, and company or client site-specific standards.

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Install optical fibre horizontal cable (Cabling Subsystem 1) and copper horizontal cable (outside plant) by pushing, pulling, tugging, ploughing and lashing cable, according to selected pathway and cable supports; and, selecting and using cable stands, hand, electrical and mechanical tools and pulling lubricants; so that cables are installed according to drawings and specifications, TIA-758-B, OESC, CEC, building codes, municipal, provincial and federal legislation, CSA-C22.3, job and manufacturers' specifications, and company or client site-specific standards.

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Install horizontal cables by pushing, pulling; labelling cable; and, selecting and using cable stands, hand, electrical and mechanical tools and pulling lubricants; so that cables are installed and protected from physical damage; according to drawings and specifications, OESC, CEC, TIA-569-C & 606-B, building codes, job and manufacturers' specifications and company or client site-specific standards.

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Install firestop including intumescent or ablative material or mechanical system by placing, pouring, spraying, injecting, bolting and compressing firestop material; documenting and labelling; selecting and using hand tools; canisters, containers and pump injectors; so that firestop is installed according to drawings and specifications, OESC, CEC, national and provincial building codes, ULC, municipal, provincial and federal legislation, CSA, job and manufacturers' specifications, and company or client sitespecific standards.

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Dress cables by combing, supporting and labelling cables; selecting and using hand, electrical and mechanical tools or equipment; according to manufacturers' and job specifications and industry codes and standards.

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U5654.0 Terminate and Splice Cables Inside and Outside Plant

General Performance Objective

Terminate and splice inside and outside plant cables, by installing mounting equipment; dressing and labelling cables; terminating optic fibre cables; splicing optical fibre cables; terminating copper cables; splicing copper cables; soldering copper connections; installing electrical protection equipment; installing grounding and bonding system; and, cross-connecting and inter-connecting cables or equipment.

Skills

5654.01

Install mounting equipment (inside plant) including racks, wall mount brackets, consolidation points and cabinets by verifying clearance for size, location, openings, height and access; selecting and installing support structure; and, grounding and bonding; so that mounting equipment is installed according to drawings and specifications, TIA-569-C & 607-B, CEIS-568, NECA/BICSI-607, OESC, CEC, building and Fire Codes, job and manufacturers' specifications and company or client site-specific standards.

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5654.02

Install mounting equipment (outside plant) including pole, mid-span and underground enclosures, cabinets and pedestals by verifying clearance for size, separation from power, location, openings, height, utility location information and access; verifying and installing support structure; attaching support hardware; and, grounding and bonding; so that mounting equipment is installed according to drawings and specifications, TIA-758-B, OESC, CEC, building codes, CSA-C22.3, job and manufacturers' specifications, and company or client site- specific standards.

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Dress cables by labelling, organizing, combing and securing cables; maintaining strain relief, bend radius and mounting equipment entry requirements; and, using fastening apparatuses including hook and loop, tie wraps, spiral wrap and banding labels; so that cables are labelled and dressed according to drawings and specifications, TIA-569-C & 606-B, job and manufacturers' specifications and company or client site-specific standards.

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Terminate optical fibre cables (inside plant) by verifying type of enclosure or termination hardware; stripping, cleaning and terminating using tools and methods according to drawing and specifications, TIA-568-C, CEIS-301, job and manufacturers' specifications and company or client site-specific standards.

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Splice optical fibre cables (inside plant) by verifying type of enclosure and splice trays; stripping, cleaning and cleaving cables; and, selecting and using crimpers, strippers, cleaners and fusion or mechanical splice systems, so that cables are spliced according to drawings and specifications, TIA-568-C, CEIS-301, job and manufacturers' specifications and company or client site-specific standards.

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Terminate copper cables (inside plant) by verifying type of termination hardware; stripping, cleaning and connecting cable to termination hardware; selecting and using ringing, sheath, crimp tools, scissors and cutters; selecting and using IDC tools; and, grounding and bonding cable; so that cables are prepared and terminated according to drawings and specifications, TIA-568-C, CEIS-568, job and manufacturers' specifications and company or client site-specific standards.

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Splice copper cables (inside plant) by verifying type of enclosure and splice modules; stripping, cleaning and connecting cable to splicing hardware; and, grounding and bonding cable; selecting and using ringing, sheath and crimp tools, scissors and cutters; and, selecting and using IDC tools; so that copper cables are spliced according to drawings and specifications, TIA-568-C, CEIS-568, job and manufacturers' specifications and company or client site-specific standards.

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Terminate optical fibre cables (outside plant) by verifying type of enclosure or termination hardware; stripping, cleaning and terminating using tools and methods, tents, heaters, gas sniffers and air exchangers; so that cables are terminated according to drawings and specifications, TIA-758-B, CSA-C22.3, job and manufacturers' specifications and company or client site-specific standards.

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Splice optical fibre cables (outside plant) by verifying type of enclosure or termination hardware; stripping, cleaning and terminating using tools and methods, fusion or mechanical splice systems, injection tools, tents, heaters, gas sniffers and air exchangers; so that cables are spliced according to drawings and specifications, TIA-758-B, CSA-C22.3, job and manufacturers' specifications and company or client site-specific standards.

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Terminate copper cables (outside plant) by verifying type of termination hardware; stripping, cleaning and connecting to termination hardware; encapsulating; grounding and bonding cables; and, selecting and using ringing, sheath and crimp tools, injection tools, scissors, cutters, IDC tools, tents, heaters, gas sniffers and air exchangers; so that cables are prepared and terminated according to drawings and specifications, TIA-758-B, CSA-C22.3, job and manufacturers' specifications and company or client sitespecific standards.

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Splice copper cables (outside plant) by verifying type of enclosure and splice modules; stripping, cleaning, and connecting to splicing hardware; encapsulating; grounding and bonding cables; and, selecting and using ringing, sheath and crimp tools, injection tools, scissors, cutters, IDC tools, tents, heaters, gas sniffers and air exchangers; so that cables are prepared and spliced according to drawings and specifications, TIA-758-B, CSA-C22.3, job and manufacturers' specifications and company or client sitespecific standards.

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Solder copper connections by selecting the type of solder, insulation and connection type including T, butt and inline; cleaning and burning posts or connections; cleaning, stripping and tinning wire; maintaining bond to ground continuity; and, selecting and using heat shrink, tape, solder wire, wire wrap, soldering gun or iron, cleaners and heat gun, so that copper is prepared and soldered according to drawings and specifications, job and manufacturers' specifications and company or client site-specific standards.

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Install electrical protection equipment by selecting and mounting primary and secondary protection equipment including gas tubes, solid state and carbon, using splicing or direct termination techniques; so that electrical protection equipment is installed according to drawings and specifications, NECA/BICSI 607, TIA-607-B, OESC, CEC, job and manufacturers' specifications and company or client site-specific standards.

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Ground and bond splices, pathways, racks, cabinets, cables and electrical protection equipment to the nearest telecommunications grounding busbar or other approved grounding point; installing and connecting bonding conductors to equipment according to drawings and specifications, NECA/BICSI 607, TIA- 607-B, OESC, CEC, job and manufacturers' specifications and company or client site-specific standards.

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Cross-connect and inter-connect cables or equipment by identifying and selecting media, ports and termination fields; routing patch cables through cable management systems; terminating cross-connection wire and patch cords; and, maintaining bond to ground continuity; so that connection is completed according to drawings and specifications, codes, related legislation, TIA-568-C, job and manufacturers' specifications and company or client site-specific standards.

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U5655.0 Perform Labelling, Testing and Documentation

General Performance Objective

Perform labelling, testing and documentation by labelling cabling system; testing multipair copper cable equipment; testing coaxial cable system; testing balanced twisted pair cable systems; testing optical fibre cable system; testing wireless system; performing final inspection; and, completing field documentation.

Skills

5655.01

Label cable system by placing mechanically printed labels on system components including mounting equipment, equipment outlet and distribution cable ends, termination hardware, inter-connect cables, raceways and pathways, so that cable system is labelled according to drawings and specifications, TIA-606-B, job and manufacturers' specifications and company or client site-specific standards.

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

5655.02

Test multipair copper cables by connecting cables using test equipment including multimeters, continuity testers, breakout box testers and, cable scanners which are certified and are calibrated within manufacturers' specifications; and interpreting, verifying and documenting test results; so that tests are completed and verified according to TIA-568-C, job and manufacturers' specifications and company or client site-specific standards.

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Test coaxial cable system by selecting and using test equipment including cable scanners, TDRs and multimeters which are certified and are calibrated within manufacturers' specifications; and interpreting, verifying and documenting test results to verify operation of cable system according to TIA-568-C, drawings and specifications, job and manufacturers' specifications and company or client site- specific standards.

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Test balanced twisted pair cable system by selecting and using copper cable test equipment including wire map devices, cable scanners and TDRs which are certified and is calibrated within manufacturers' specifications; interpreting, verifying and documenting test results, to verify operation of cable systems according to drawings and specifications, TIA-568-C, job and manufacturers' specifications and company or client site-specific standards.

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Test optical fibre cable system by selecting and using optical fibre test equipment including optical power sources, optical power meters, fibre identifiers and OTDRs which are certified and are calibrated within manufacturers' specifications and, interpreting, verifying and documenting test results, to verify operation of cable systems, according to drawings and specifications, TIA-526-7 & 526-14-B, job and manufacturers' specifications and company or client site-specific standards.

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5655.06

Test wireless system by selecting and using wireless test equipment including spectrum analysers, base station analysers, RF watt meters, RF cable and antenna test equipment which are certified and are calibrated within manufacturers' specifications and, interpreting, verifying and documenting test results, to verify operation of wireless systems, according to drawings and specifications, Institute of Electrical and Electronics Engineers (IEEE), job and manufacturers' specifications and company or client site-specific standards.

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5655.07

Perform final inspection by walking through the installation with supervisor or client authority; resolving deficiencies; and, verifying that systems are labelled, tested and documented; according to drawings and specifications, TIA-526-7, 526-14, 568-C, 569-C, 606-B, 607-B & 758-B, OESC, CEC, IEEE, CEIS-301, 568, NECA/BICSI 607, CSA, NFC, national and provincial building codes, job and manufacturers' specifications and company or client site-specific standards.

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5655.08

Complete field documentation including cable records, test documents, as-built information, work orders, change orders, equipment records, firestop records, inspection data and company-specific documents, ensuring that all data is recorded; according to drawings and specifications, TIA-606-B, job and manufacturers' specifications and company or client site-specific standards.

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U5656.0 Perform Networking Installation

General Performance Objective

Perform networking installation by identifying and documenting the client's current network architecture and physical topology; identifying, placing or mounting pre-determined networking equipment; connecting networking equipment, and, identifying, selecting, installing, configuring and testing networking hardware and components.

Skills

5656.01

Identify the client's current network architecture and physical topology for voice, data, video and wireless legacy, and current systems including star, bus, ring and wireless topology.

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Identify, place or mount pre-determined networking equipment including, routers, switches, servers, modems, media filters, baluns, Voice over Internet Protocol (VoIP) phone, Power over Ethernet (PoE), and other Internet Protocol (IP) devices, wireless components including Distributed Antenna System (DAS), Point to Point and Wireless Access Point (WAP), and Private Branch eXchange (PBX), by placing, bonding, fastening, support structure or equipment to ground according to drawings and specifications, OESC, CEC, TIA-569-C, Electronic Industry Alliance (EIA) CSA, IEEE, job and manufacturers' specifications, and company or client site-specific standards.

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Connect networking equipment including, routers, switches, servers, modems, media filters, baluns, Voice over Internet Protocol (VoIP) phone, Power over Ethernet (PoE), and other Internet Protocol (IP) devices, wireless components including Disturbed Antenna System (DAS), Point to Point and Wireless Access Point (WAP), and Private Branch eXchange (PBX), by cross-connecting, inter- connecting and patching; so that hardware and components are installed according to drawings and specifications, OESC, CEC, TIA-568-C, EIA, Canadian Standards Association (CSA), IEEE, job and manufacturers' specifications, and company or client site-specific standards.

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| | | |
| mm/dd/yy | Apprentice Print Name | Apprentice Signature |

5656.04

Configure and test networking hardware and components including voice, data, video and wireless systems, to ensure that the overall system is performing according to client requirements; job and manufactures' specifications and industry codes and standards.

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

U5657.0 Troubleshoot Cable System

General Performance Objective

Troubleshoot cable systems/hardware by identifying and repairing multipair copper cable system, coaxial cable system, balanced twisted pair system, optical fibre cable and wireless system faults.

Skills

5657.01

Identify and repair multipair copper cable system faults by identifying symptoms with client and visually inspecting system by selecting and using test equipment including multimeters, continuity testers, breakout box testers and cable scanners which are certified and are calibrated within manufacturers' specifications; interpreting data; taking corrective actions including replacing, adjusting, or reconfiguring cabling system components; interpreting, verifying and documenting test results to verify operation of cable systems; and update documentation, according to drawings and specifications, TIA-568-C, CSA, job and manufacturers' specifications and company or client site-specific 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.

Identify and repair coaxial cable system faults by identifying symptoms with client and visually inspecting system; selecting and using test equipment including cable scanners, TDRs and multimeters which are certified and are calibrated within manufacturers' specifications; interpreting data; taking corrective action including replacing, adjusting, or reconfiguring coaxial cabling system components; verifying and documenting test results to verify operation of cable system; and updating documentation according to, TIA-568-C, drawings and specifications, job and manufacturers' specifications and company or client site-specific standards.

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

Identify and repair balanced twisted pair cable system faults by identifying symptoms with client and visually inspecting system by selecting and using copper cable test equipment including wire map devices, tone generators (toner) and inductive amplifiers, cable scanners and TDRs which are certified and are calibrated within manufacturers' specifications; interpreting data; taking corrective action including replacing, adjusting, or reconfiguring balanced twisted pair cable system components; verifying and documenting test results to verify operation of cable systems; and updating documentation according to drawings and specifications, TIA-568-C, job and manufacturers' specifications and company or client site-specific standards.

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

Identify and repair optical fibre cable system faults by identifying symptoms with client and visually inspecting system selecting and using optical fibre test equipment including optical power sources, optical power meters, which are certified and are calibrated within manufacturers' specifications; interpreting data; taking corrective action including replacing, adjusting, or reconfiguring optical fibre system components; verifying and documenting test results to verify operation of cable system; and updating documentation according to drawings and specifications, TIA-526-7, 526-14-B & 568-C, job and manufacturers' specifications and company or client site-specific standards.

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

Identify and repair wireless system faults by identifying symptoms with client and visually inspecting system using wireless test equipment including spectrum analysers, base station analysers, RF watt meters, RF cable and antenna test equipment which are certified and are calibrated within manufacturers' specifications; interpreting data; taking corrective action including replacing, adjusting, or reconfiguring wireless system components; verifying and documenting test results to verify operation of wireless system and update documentation according to drawings and specifications, IEEE, job and manufacturers' specifications and company or client site-specific standards.

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

U5658.0 Develop and Maintain Positive Client Relations

General Performance Objective

Develop and maintain positive client relations by communicating verbally and in writing with clients and co-workers; and, resolving conflicts.

Skills

5658.01

Communicate verbally with clients and co-workers by listening attentively; paraphrasing ideas and statements; asking open- and closed-ended questions; using common trade or plain language; explaining processes and ideas in a clear, concise and positive manner; and, referring clients to other trade professional services to meet client needs, in accordance with company and client site- specific 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.

5658.02

Perform written communication skills by writing legibly; paraphrasing ideas and statements; preparing documents; providing accurate details; using common trade or plain language; explaining processes and ideas; completing all required information on documents; and, referring clients to other trade professional services to meet client's needs; ensuring that all written documents are clear, concise and legible, client confidentially is maintained and awareness of the sensitivity of electronic documents, including e-mail etiquette, according to company or client site-specific standards.

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

Resolve conflicts by recognizing an escalating situation; remaining calm; asking questions; restating concerns; focusing on resolving the problem; offering options to the client; and, preparing a written report for referral to management; so that conflict is clarified, solutions are recommended, and management is aware of problem, according to company standards.

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

Trade Related Glossary

This glossary was developed for the exclusive purpose of providing consistent training in this trade.

ablative The development of a hard char within a firestop system that

resists the erosion of fire and flame.

as-built A set of drawings reflection the work done on a project after

completion.

attenuation The decrease in magnitude of a signal as it travels through a

medium, usually expressed at a specific frequency in decibels

(dB).

augur A corkscrew shaped device, available in varying sizes, used to

bore into soil or aggregates.

backbone cable A cable that provides interconnections between

telecommunications rooms and equipment rooms within or

exterior to buildings.

balanced A cable system containing symmetrical cable elements.

balun A circuit-coupling device used to convert from a balanced to

and unbalanced transmission.

bend radius The maximum that a cable may be bent without adversely

affecting its electrical or optical characteristics of transmission

properties.

BICSI® Building Industry Consulting Services International - An

international telecommunications association for cabling distribution designers, as well as commercial and residential

installers.

Buffer Tube A loose fitting cover over an optical fibre in loose tube fibre

cable construction to provide protection and isolation.

cable grip A device consisting of a fabric sock or weaved wire mesh tube

that fits over the end of a cable or group of cables to facilitate

pulling.

cable tie A plastic tying device that encircles a cable or group of cables

to securely fasten them together or to another object.

cable tray A supporting raceway that is open on the top allowing electrical

or communication cable to be placed inside.

carbon protection (See Protector)

CEC Canadian Electrical Code

CEIS Canadian Electrical Installation Standard.

certification tester A cable-testing device that tests the performance of the

combined cabling components within a cabling system according to predetermined specifications and standards.

cleaving The process of cutting a fibre optic strand.

coaxial cable An unbalanced cable consisting of a centre conductor

separated from an outer conductive sheath by an insulating

material.

combing The process of separating and arranging a group of cables into

a neat symmetrical bundle without tangles or twists.

conduit Plastic or metallic pipe used for protection and installation of

electrical and telecommunication cable and wires.

confined workspace a fully or partially enclosed space,

(a) that is not designed and constructed for continuous human

occupancy, and

(b) in which atmospheric hazards may occur because of its construction, location or contents, or because of work that is

done in it.

continuity tester A tester that proves that an electrical conductor is continuous

without a break.

coring The process of drilling, especially through concrete, with a

round hollow bit that removes a slug of material from the hole.

crimper A compression tool used for attaching connectors on various

types of cable.

cross-connection A connection method using jumpers and patching cords to

connect different cable elements together.

CSA Canadian Standards Association.

DAS Distributed Antenna System.

deficiencies A list detailing the items that are required to be fixed or

completed on a job.

directional boring The process of drilling horizontally or vertically through soil to

create a pathway for cables or conduits.

duct An enclosed raceway or conduit usually encased in concrete or

soil used as a pathway for telecommunication cables or

electrical conductors.

EIA Electronic Industry Alliance

encapsulant A permanent or removable filling compound for a slice

enclosure used to prevent water intrusion.

Ethernet A LAN protocol using a logical bus structure and carrier sense

multiple access with collision detection.

Fan-out An assembly used to increase the effective outer diameter of

strands within an optical fibre cable to enable connector

termination.

firestop system An approved group of components, that when combined,

restore the fire protective nature of a building assembly,

especially around cables or openings.

furcation tube A flexible tube used to increase the effective outer diameter of

coated optical fibre strands to enable connectorization and

provide physical protection.

fusion splicing The process of using a controlled electrical arc to melt together

two strands of optical fibre into one homogeneous strand.

Gas sniffers A device used to sample and analyse air quality.

gas tube protection (See protector).

IDC Insulation displacement connector - A type of wire termination

in which the connector cuts through the conductor's insulation

to make contact.

IEEE Institute of Electrical and Electronics Engineers, Inc.

intumescent A material that will enlarge or expand upon exposure to heat.

J-hook A supporting device resembling a "J" that is used for the

support of cables.

Lightsource Using a calibrated light source at one end and a light metre at

the other.

mechanical splicing A method of connecting two optical fibre strands together,

using a mechanism containing index-matching gel to insure

optical continuity.

modem Modulator-Demodulator. A device that converts between digital

and analogue signals for transmission over various networks.

MSDS Material Safety Data Sheet

Multi-meter A measuring device that tests various electrical properties of a

conductor.

NECA National Electrical Contractors Association

NFCC National Fire Code of Canada

OESC Ontario Electrical Safety Code

OHSA Occupational Health and Safety Association

optical fibre A transmission medium composed of a strand of glass or

plastic that carries pulses of light.

optical fibre link loss The amount of light lost when transmitting over the entire

length of medium, measured in dB.

Optical Powermeter Test equipment that measures the optical power loss in a

system.

OTDR Optical Time Domain Reflectometer, an instrument that

measures transmission characteristics of fibre by measuring backscatter and reflection of inserted light as a function of time.

PBX Private Branch eXchange.

pedestal An enclosure or cabinet used in outside environments.

plenum A space used as part of an air distribution system within a

building.

PoE Power over Ethernet

powder-actuated fastening tools

A tool using explosive powder to drive pins of fasteners into a

substrate.

primary protector See protector.

protector A device that limits overvoltage (primary) or overcurrent

(secondary) on telecommunications conductors using fuse links, carbon blocks, gas tubes or solid-state devices.

punch down tools A specialized tool used for terminating wires in IDCs.

raceway Any enclosed channel approved for the installation of electrical

or telecommunication cables or conductors.

Router A network device that connects networks having dissimilar

communication protocols.

solid-state protector See Protector.

splice tray A tray used to support and protect spiced fibre optic strands.

splicing The process of joining cables or wires to ensure electrical or

optical continuity.

Switch A device that makes connections between numerous network

devices simultaneously.

TDR time domain reflectometer.

Telecommunications

Room

An enclosed room used for the housing of telecommunications

equipment, horizontal cable terminations, backbone cable

terminations and cross connects.

termination field An area or space that serves as the connection point for

cables.

TIA Telecommunications Industry Association.

tone generator A testing device that transmits a tone over a cable. Used with

an inductive amplifier for identification or tracing cables.

topology The physical of logical layout of a communications connection

path.

UCL Underwriters Laboratories of Canada

VoIP Voice over Internet Protocol

WAP Wireless Access Point

WHMIS Workplace Hazardous Materials Information System

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.

Journeyperson

Journeyperson means an individual who holds a certificate of qualification (in a compulsory or non-compulsory trade) and/or an individual who practices as a journeyperson 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 Journeyperson 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.
- 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 the best of my knowledge. | nat the above information is true ar | nd accurate to the |
| Signature: | Date: (mm/dd/y | /y) |

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 <u>SkilledTradesOntario.ca</u> 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 thoest of my knowledge. | at the above information is true and accurate to the |
| 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 <u>SkilledTradesOntario.ca</u> 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 pest of my knowledge. | that the above information is true ar | nd accurate to the |
| Signature: | Date: (mm/dd/y | yy) |
| • | sign-off and date the skills after the | • • |

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 <u>SkilledTradesOntario.ca</u> 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 thoest of my knowledge. | | nd accurate to the |
| Signature: | Date: (mm/dd/y | /y) |
| The Spancer is required to | sign off and data the skills after the | o Approptico |

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 <u>SkilledTradesOntario.ca</u> 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 oncorp.ncbi.nlm.nih.gov/onent-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-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 (print name) | | | | |
| E-mail Address | | | | |
| Program Information | | | | |
| Trade Name | | | | |
| Number of hours required as per Training Agreement (hours-based trades only) | | | | |
| Hours completed? (documentation attached) | | Yes () | No () | Not applicable () |
| Classroom training completed or exempt? | | Yes () | No() | Not applicable () |
| hereby confirm that the information submitted on both sides of this form is true and accurate. | | | | |
| (| X | | | |
| Apprentice's Signature Date Signature of Sponsor's Signing Authority Date | | | | |

Appendix C — Skill Set Completion for Sponsors

You will find the skill set numbers and titles in the Logbook's Table of Contents. By signing off each skill set in the table below, you are providing final confirmation, as the Apprentice's Sponsor, that the Apprentice has demonstrated competency in all the mandatory skills included in the skill set.

| Skill Set # | Skill Set Title | Signing Authority Signature |
|-------------|------------------------------------------------------|--------------------------------|
| U5651.0 | Protect Self and Others | |
| U5652.0 | Plan and Prepare for Installations | |
| U5653.0 | Perform Cable Installations Inside and Outside Plant | |
| U5654.0 | Terminate and Splice Cables Inside and Outside Plant | |
| U5655.0 | Perform Labelling, Testing, and Documentation | |
| U5656.0 | Perform Networking Installation | |
| U5657.0 | Troubleshoot Cable System | |
| U5658.0 | Develop and Maintain Positive Client Relations | |

| Ministry of Labour, Immigration, Training and Skills Development use only: | | | |
|----------------------------------------------------------------------------|-----------|---------|--------|
| Sponsor verified as most recent sponsor of record: | | Yes () | No () |
| Documentation to support completion of hours attached: | | Yes () | No () |
| Completion of classroom training verified: | | Yes () | No () |
| Staff Name | Signature | | |
| 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 FI, 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 FI, Suite 200, Windsor, ON N8X 4Y8 |

Competency Analysis Profile (CAP) Chart 5651.05 U5651.0 5651.01 5651.02 5651.03 5651.04 Inspect Wear, adjust and Practice good Identify health Practice safe **Protect Self and** equipment maintain housekeeping and safety work procedures Others personal hazards protective equipment 5651.06 5651.07 5651.08 Handle Operate lifting Follow first aid hazardous and rigging practices and equipment for substances emergency material and communications personnel procedures 5652.04 5652.05 U5652.0 5652.01 5652.02 5652.03 Co-ordinate pre-Select and verify Perform trade Select hand tools Select power **Plan and Prepare** cable pathways tools installation calculations for Installations activities and spaces 5652.06 Select testing

equipment

U5653.0
Perform Cable
Installations
Inside and
Outside Plant

5653.01
Layout and create openings for cable pathways (inside

5653.02
Layout and create openings for cable pathways (outside plant)

5653.03
Layout and
install raceways,
raceway
supports and
cable supports
(inside plant)

5653.04
Layout and
install raceways,
raceway
supports and
cable supports
(outside plant)

5653.05 Install pulling medium in cable pathway

5653.06Select cable for installation

plant)

5653.07Prepare cable for installation

5653.08
Install optical
fibre backbone
cable (Cabling
Subsystem 2 and
Cabling
Subsystem 3)
(inside plant)

5653.09 Install copper backbone cable (inside plant) 5653.10
Install optical fibre horizontal cable (Cabling Subsystem 1) and copper horizontal cable (outside plant)

5653.11 Install horizontal cables **5653.12** Install firestop

5653.13 Dress cables

U5654.0
Terminate and
Splice Cables
Inside and
Outside Plant

5654.01
Install mounting equipment (inside plant)

5654.02 Install mounting equipment (outside plant) **5654.03** Dress cables

5654.04
Terminate optical fibre cables (inside plant)

5654.05 Splice optical fibre cables (inside plant)

5654.06 Terminate copper cables (inside plant) **5654.07** Splice copper cables (inside plant) 5654.08
Terminate optical fibre cables (outside plant)

5654.09 Splice optical fibre cables (outside plant) 5654.10 Terminate copper cables (outside plant)

5654.11 Splice copper cables (outside plant) **5654.12** Solder copper connections

5654.13 Install electrical protection equipment 5654.14
Ground and bond splices, pathways, racks, cabinets, cables and electrical protection equipment

5654.15
Cross-connect
and inter/connect
cables or
equipment

U5655.0
Perform
Labelling, Testing
and
Documentation

5655.01 Label cable system **5655.02** Test multipair copper cables

5655.03 Test coaxial cable system

5655.04 Test balanced twisted pair cable system **5655.05** Test optical fibre cable system

5655.06 Test wireless System **5655.07** Perform final inspection

5655.08 Complete field documentation

U5656.0 Perform Networking Installation

5656.01
Identify and document the clients current network architecture and physical topology

5656.02
Identify, place or mount predetermined networking equipment

5656.03 Connect networking equipment 5656.04
Configure and test networking hardware and components

U5657.0 Troubleshoot Cable System

5657.01 Identify and repair multipair copper cable system faults 5657.02 Identify and repair coaxial cable system faults 5657.03
Identify and repair equipment balanced twisted pair cable system faults

5657.04 Identify and repair optical fibre cable system faults 5657.05 Identify and repair wireless system faults

U5658.0
Develop and
Maintain Positive
Client Relations

5658.01 Communicate verbally with clients and coworkers **5658.02**Perform written communication skills

5658.03 Resolve conflicts

| Notes |
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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:
 <u>Exam Resources Skilled Trades Ontario</u> and/or view the exam preparation guide for Red Seal trades at: <u>red-seal.ca</u>



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