

December 19, 2018

Mark your calendars, **Future Building** is coming back to the **EY Centre (Hall 2)** in **Ottawa** on **May 14<sup>th</sup> to 16<sup>th</sup>, 2019!**

Future Building is an annual **three day interactive event** that brings over 6,000 youth together under one roof to stimulate their interest in the **construction** industry's **skilled trades**. A **career** in the **construction trades** is more than a job, it's a platform for accelerated and professional growth where in-demand skills can facilitate successful and rewarding jobs opportunities.

The event will feature exhibits from **more than 18 building and construction trades** showcasing their tools and sharing their skills and education. Future Building provides a unique hands-on learning experience for **young career seekers in grade 7 through to post-secondary education, aboriginal youth, youth at risk and adults in career transition**. It's a great opportunity for all attendees to learn what it takes to be a plumber, a crane operator, a carpenter, electrician, painter and ironworker, among other trades. Future Building gives youth access to the infrastructure they need to pursue a career in the trades.

Future Building spotlights cutting-edge technologies by encouraging youth to participate in virtual reality simulations; such as welding, excavating and walking the 18' iron beam at the top of the CN Tower.

We estimate that over **6,000 students will attend** our 16<sup>th</sup> annual Future Building event. Schools from all over Ontario participate each year. To **register** and learn more about the event, visit [www.futurebuilding.ca](http://www.futurebuilding.ca).

If you have any questions about the event, please don't hesitate to contact us at (416) 620-5210 or by email at [info@iconstruction.com](mailto:info@iconstruction.com).

Regards,

Robert Bronk  
Chief Executive Officer  
Ontario Construction Secretariat

## EVENT INFORMATION

### WHAT IS FUTURE BUILDING?

Future Building is an annual **three day interactive event** presented by the Ontario Construction Secretariat (OCS) that brings over 6,000 youth together under one roof to stimulate their interest in the **construction industry's skilled trades**.

Featuring exhibits from more than 18 skilled construction trades, attendees will be provided a unique hands-on learning experience. In addition to hands on experience, students will have the opportunity to explore over a dozen other exhibitors and ask questions **about training, earning potential and life in the trades**.

### WHO CAN ATTEND?

Future Building provides a unique hands-on learning experience for **young career seekers in grade 7 through to post-secondary education, aboriginal youth, youth at risk and adults in career transition**. Teachers, school counsellors, OYAP coordinators and experiential learning coordinators are also encouraged to attend. An estimated 6,000 students, teachers and staff from all over Eastern Ontario will attend the event.

### WHEN IS IT?

May 14<sup>th</sup> to 16<sup>th</sup>, 2019 from 9:00am – 2:00pm

### WHERE WILL IT BE HELD?

EY Centre, Hall 2, 4899 Uplands Dr., Ottawa.

### HOW DO WE REGISTER?

Please visit [www.futurebuilding.ca](http://www.futurebuilding.ca) for event and registration information. Visit this site often as we will be posting additional material leading up to the event. Reminder, there is no cost to attend.

### JOIN THE CONVERSATION?

Follow Future Building 2019 on social media to join in the conversation:

Facebook: [@FutureBuildingExpo](https://www.facebook.com/FutureBuildingExpo)

Instagram: [@FutureBuildingOn](https://www.instagram.com/FutureBuildingOn)

Twitter: [@OntConstSec](https://twitter.com/OntConstSec)

### ADDITIONAL QUESTIONS?

Contact the Ontario Construction Secretariat via email at [info@iciconstruction.com](mailto:info@iciconstruction.com) or by phone at (416) 620-5210.

## TESTIMONIALS

*The Future Building show is a great opportunity for young people to try their hand at a trade in a safe and controlled environment. It gives them a good estimation of what the different trades do and how they do it and it also reinforces the union backing in a positive light. I highly recommend anyone to bring their class, community group or even on an individual basis to this exhibit. It is well worth the investment of time to understand the great potential to working in the Unionized Construction Trades."*

**Greg Bobier – Business Manager  
Waterloo Wellington Dufferin and Grey Building and Construction Trades Council**

*"I wanted to congratulate you for putting on a phenomenal event from top to bottom. Thank you for allowing Flightunit to be a part of your magical event, we had an awesome time speaking with administrators, different organizations but most importantly engaging with students."*

**Christoff Kyere – President & Founder  
Flightunit**

*"As a teacher, I firmly believe that these types of events are not only important, they are essential for students who may be using certain tools for the very first time and see what it really feels like. Videos online and manuals can only teach them so much and these do not give them a great sense of accomplishment. I even saw entire lines of girls wanting to drill into sheet rock, assemble nuts with bolts and trying their hands at traditionally male dominated jobs. Not only were the individual kiosks wonderfully setup and informative, but the trades people there were amazing and answered all their questions with enthusiasm and encouragement. I have no doubt that you and this event have sent some of my students on a path towards a rewarding career in trades. I cannot thank you enough for this experience which is really inspiring our youth to a world of opportunity."*

**Marc Jeanveau, Teacher  
St. Paul's Elementary, Lively, ON**

*"I'm impressed by the opportunities and the salaries that the construction trades can offer. I've seen the possibilities for a bright future in this industry."*

**Alisha G., Student  
Toronto, Ontario**

*"The construction trades are all new to me, so it's great to come out and get a firsthand look at the opportunities in this industry. I was frankly surprised by the number of paths I can take."*

**Ming W., College Graduate  
Ottawa, Ontario**



# CONSTRUCTION TRADE PROFILES

## **ARCHITECTURAL GLASS AND METAL TECHNICIAN (GLAZIER)**

An Architectural Glass and Metal Technician handles, measures, cuts, prepares, fits, installs, replaces and repairs all types of glass and glass substitutes, typically in commercial, residential and transportation settings. An Architectural Glass and Metal Technician fabricates and installs curtain wall framing, aluminum storefront frames and entrances, doors and hardware, structural silicone glazing, skylights and sloped glazing. Specifically, an Architectural Glass and Metal Technician:

- lays out, measures, prepares, fabricates and installs/replaces architectural glass and metal components and air/vapour barriers in systems such as entranceways, windows, skylights and curtain walls
- works with and installs plastics, granite, aluminum panels and other similar materials used as glass substitutes, as well as films or laminates that improve the durability or safety of the glass
- works from mobile equipment, scaffolds and swing stages, sometimes at great heights, to manoeuvre glass panels that are lifted by cranes and other lifting equipment

## **BOILERMAKER**

A Construction Boilermaker builds, installs, erects, tests, maintains and repairs all types of boilers, tanks and pressure vessels, and performs all types of structural and plate work on dust, air, gas, steam, oil, water and other liquid-tight pressure vessels. Specifically, a Boilermaker:

- works from fabrication drawings (prints) to fabricate components from steel or other materials
- uses various metal forming machines such as rotary shears, punch presses and bending rolls
- tests boiler systems for leaks, defects and other deficiencies to ensure they are operating safely and efficiently
- attaches rigging and works with hoisting devices to lift components into place

## **BRICK AND STONE MASON**

A Brick and Stone Mason builds and repairs walls, floors, arches, pavings, partitions, fireplaces, chimneys, smokestacks and other structures. A Brick and Stone Mason often works on industrial, commercial, institutional and residential buildings, many times in high-temperature environments. Specifically, a Brick and Stone Mason:

- erects, installs, maintains, repairs and alters walls, floors, arches, pavings, partitions, fireplaces, chimneys, smokestacks and other structures
- works with materials such as brick, natural stone, manufactured stone, tiles, precast masonry panels, glass blocks, concrete blocks, light-weight insulated panels, other masonry units, insulation and membranes

## **CEMENT (CONCRETE) FINISHER**

A Cement (Concrete) Finisher installs concrete structures including interior floors and exterior pavements using a variety of methods of construction to produce a variety of finishes, colours and textures in all types of residential, institutional, commercial and industrial buildings. Specifically, a Cement (Concrete) Finisher:

- prepares, forms, reinforces, places, levels, finishes, cures and joints all types of concrete flatwork
- operates a variety of powered equipment including ride-on finishing machines and laser-guided screeds
- specializes in the application of all horizontal concrete surface finishes ranging from traditional trowel finishes to exposed aggregate, imprinted, pigmented, stained and dyed and polished concrete using a wide range of specialty liquid and cementitious materials systems
- repairs and restores existing concrete surfaces and structures

## **CONCRETE PUMP OPERATOR**

A Concrete Pump Operator inspects, prepares, operates, controls, and cleans various concrete pumps including those found in vehicles and their various related attachments/ components. Concrete pumps may be truck mounted, stationary, and trailer-mounted as well as tower concrete placing booms. Specifically, a Concrete Pump Operator:

- co-ordinates the placement of concrete through a pump at the work site
- operates the vehicle and loads and unloads concrete pumps and attachments
- sets up the concrete pumps and components and concrete delivery system, operates high pressure pumps and separate placing booms
- performs pre-operational inspections, safety and operational checks and preventative maintenance
- operates concrete pumps and related components
- monitors equipment performance and the movement of the concrete to the pour location
- resolves issues related to the movement of pumpable concrete
- maintains the equipment, cleans concrete pumps and components
- reads and interprets government legislation, site plans and manufacturers' manuals (i.e. survey indicators)
- communicates through various techniques including hand signals

## **CONSTRUCTION CRAFT WORKER**

A Construction Craft Worker works on a wide variety of structures, such as residential, industrial, commercial, and institutional sites as well as hydroelectric dams, roadways, bridges, tunnels, mining and railways. They may also work on utility, landscape and pipeline projects. Specifically, a Construction Craft Worker:

- site preparation and cleanup, setting up and removing access equipment and working on concrete, masonry, steel, wood and pre-cast erecting projects
- handle materials and equipment and perform demolition, excavation and compaction activities
- responsible for site security
- may specialize in operating off-road vehicles, drilling and blasting, scaling, sandblasting, high pressure washing, diving, tunneling and performing emergency rescue

## **CONSTRUCTION MILLWRIGHT**

A Construction Millwright lays out, receives & installs machinery, mechanical equipment and other automated and robotic systems. They work in the construction, commercial, manufacturing, and industrial industries; they often work in close association with people in other trades, such as instrument mechanics, ironworkers, pipefitters and electricians. Specifically, a Construction Millwright:

- interprets drawings and performs mathematical calculations
- uses hand and power tools
- operates forklifts, booms, low capacity cranes, and other equipment
- selects and uses materials and fasteners
- welds, brazes, solders, rigs and hoists
- installs material handling systems
- installs, and commissions machinery and automated robotic systems
- installs bearings, seals and packing, pipe systems and valves, fans and blowers, electric and electronic controls, pneumatic and hydraulic systems

## **DRYWALL FINISHER AND PLASTERER**

A Drywall Finisher and Plasterer tapes and finishes wallboard (drywall), applies, maintains and restores plaster and similar materials on interior and exterior walls, ceilings and building partitions to make them more decorative, soundproof and fire-rated. A Drywall Finisher and Plasterer also textures concrete, applies coats of plaster to foundation materials, and installs, repairs and restores mouldings and ornaments.

Specifically, a Drywall Finisher and Plasterer:

- tapes and finishes wallboard (drywall)
- applies tape to fire rate and gas proof walls
- installs beads to protect corners
- fills joints and imperfections
- mixes and applies compound and sands to create a smooth surface
- textures concrete, prepared walls and ceilings
- applies coats of plaster to foundation materials
- wires mesh and installs ornaments

## **ELECTRICIAN - CONSTRUCTION AND MAINTENANCE**

Electricians plan, assemble, connect, install, repair, inspect, test, verify, and maintain electrical systems in various settings (i.e. residential, commercial, institutional, industrial). They measure, cut, thread, bend, assemble and install conduits, electrical conductor enclosures and supports. Electrical systems include heating, lighting, power, communication, control, security systems and renewable energy and energy storage systems. Specifically, an Electrician:

- lays out, assembles, installs, repairs, maintains, connects and/or tests electrical systems
- plans installations from blueprints, sketches and specifications, and installs all electrical and electronic devices
- systematically diagnoses faults in electrical and electronic components, as required
- measures, cuts, threads, bends, assembles and installs conduits
- splices and terminates electrical conductors
- tests electrical and electronic equipment to ensure that they are functioning properly

*An electrician is classified as a compulsory trade, which means that individuals working in the trade are required by law to hold a certificate of qualification.*

## **ELEVATING DEVICES MECHANIC**

An Elevating Devices Mechanic constructs, installs, services and maintains elevating devices including elevators, lifts and escalators. Specifically, an Elevating Devices Mechanic:

- inspects, services and maintains existing elevating devices
- installs new elevating devices
- rigs and hoists elevating devices
- installs and maintains control equipment
- installs and maintains protective devices

*The Elevating Devices Mechanic trade is also regulated under the Technical Standards and Safety Act, 2000, and a Certificate of Qualification does not authorize its holder to engage in the practice of the trade unless the individual also holds an EDM-A certificate from the Technical Standards and Safety Authority.*

## **FLOOR COVERING INSTALLER**

A Floor Covering Installer installs, replaces and repairs a variety of floor coverings in residential, industrial, commercial and institutional settings, using under cushion, carpeting, vinyl, resilient tile, sheet flooring, pre-finished, unfinished, engineered wood, laminate, seasonal carpeting and artificial turf. Specifically, a Floor Covering Installer:

- prepares floors by removing existing trim, flooring, and under layments
- installs and repairs resilient tile, resilient sheet goods, glue down carpets, carpet tile, carpet and cushion, wood floors, engineered and laminate floor
- verifies drawings, written specifications, and choice of materials
- marks for tile and pattern lay-out
- seams and seals sheet goods
- applies adhesives

## **GENERAL CARPENTER**

A General Carpenter constructs, renovates and repairs structures made of wood, steel, concrete and other materials in the residential, commercial and industrial construction sectors and in related industries. Specifically, a General Carpenter:

- establishes building procedures and prepares work sites
- lays out, constructs and installs formwork and concrete foundations
- frames floors, walls, ceilings and roofs
- finishes interiors and exteriors
- constructs heavy framing
- builds stairs, posts and handrails
- lays out, constructs and installs door and window systems
- performs renovations



## **HAZARDOUS MATERIALS WORKER**

A Hazardous Materials Worker identifies, removes, packages, transports and disposes of hazardous materials such as asbestos, mould, lead, mercury, and other biological hazards. Specifically, a Hazardous Materials Worker:

- mobilizes and de-mobilizes site enclosures
- pre-cleans work areas
- builds work area enclosures
- sets up decontamination chambers and waste chutes
- removes and cleans hazardous material
- dismantles work area enclosures and decontamination chambers
- performs post tear-down clean
- performs routine inspections

*In accordance with the Occupational Health and Safety Act, 1990, Hazardous Materials Workers in Ontario also require an Asbestos Abatement Worker (253W AAW) Certificate issued by the MTCU.*

## **HEAT AND FROST INSULATOR**

A Heat and Frost Insulator works with insulating material to prevent or reduce the passage of heat, cold, vapour, moisture, sound or fire. A Heat and Frost Insulator installs, repairs and maintains insulating materials used on systems and equipment as well as walls, floors and ceilings of buildings and may also lay out and fabricate parts on-site, remove or seal-off old insulation. Specifically, a Heat and Frost Insulator:

- reads and interprets drawings and specifications to determine insulation requirements
- selects the amount and type of insulation to be installed
- measures and cuts insulating material to the required dimensions
- applies, installs, repairs and maintains insulating material
- installs fire-stopping insulation
- applies metal and plastic finishes

## **HEAVY EQUIPMENT OPERATOR — DOZER**

A Heavy Equipment Operator — Dozer operates a dozer, its attachments and ground engaging equipment in various types of projects across multiple industries such as road construction and maintenance, mining, quarrying, land clearing, forestry, logging as well as gas and oil. The dozer operator inspects, maintains, transports and operates this equipment and attachments. Specifically, a Heavy Equipment Operator — Dozer:

- performs pre-operational inspections, safety and operational checks and preventative maintenance
- monitors equipment performance
- loads and unloads and transports, cleans, oils and refills equipment
- reads and interprets government legislation, site plans and manufacturers' manuals
- installs, operates and removes attachments (i.e. quick attach, blades, buckets, rippers, towable scrapers and winches)
- performs operations such as excavating, grading, ramp building, stockpiling, backfilling and towing ensuring maximum productivity
- checks grades, performs cut and fill operations, maintains winter roads, moving mass materials, stripping surface materials, create slopes and ditches, spreads materials, pushes scrapers, backfills trenches and excavations, maintains dumpsite area, levels surfaces and clears land
- communicates through various techniques including hand signals

## **HEAVY EQUIPMENT OPERATOR — EXCAVATOR**

A Heavy Equipment Operator — Excavator operates an excavator, its attachments and ground engaging equipment in various types of projects across multiple industries, such as road construction and maintenance, mining, quarrying, land clearing, forestry, logging, as well as gas and oil. He/she inspects, maintains, transports and operates this equipment and its attachments. Specifically, a Heavy Equipment Operator — Excavator:

- performs pre-operational inspections, safety and operational checks, preventative maintenance
- monitors equipment performance
- loads and unloads, transports, cleans, oils and refills equipment
- reads and interprets government legislation, site plans and manufacturers' manuals (
- installs, operates and removes attachments (i.e. quick attach, buckets, rakes, levels, tillers, cutters, blades, grapples, pushers, vibrators and breakers)
- performs operations, such as excavating, grading, ramp building, stockpiling, backfilling and towing, ensuring maximum productivity
- checks grades, performs cut and fill operations, backfills trenches and excavations, creates slopes, creates mass excavations, clears land, strips surface materials, stockpiles and places materials, lifts materials, performs logging and surface mining operations, perform demolitions, bales snow.
- communicates through various techniques including hand signals

## **HEAVY EQUIPMENT OPERATOR — TRACTOR LOADER BACKHOE**

A Heavy Equipment Operator — Tractor Loader Backhoe operates a tractor loader backhoe, its attachments and ground engaging equipment in various types of projects across multiple industries, such as road construction and maintenance, mining, quarrying, land clearing, forestry, logging, as well as gas and oil. Specifically, a Heavy Equipment Operator — Tractor Loader Backhoe:

- inspects, maintains, transports and operates this equipment and attachments
- performs pre-operational inspections, safety and operational checks and preventative maintenance
- monitors equipment performance
- loads and unloads, transports and cleans, oils and refills equipment
- reads and interprets government legislation, site plans and manufacturers' manuals
- installs, operates and removes attachments (i.e. quick attach, buckets, bucket thumbs, quick couplers, splitters, grapples, teeth and adapters)
- performs operations such as excavating, grading, ramp building, stockpiling, backfilling and towing ensuring maximum productivity
- clears ice and snow, checks grades, performs cut and fill operations, backfills trenches and excavations, stockpiles and places materials, excavates trenches and ditches, loads trucks, lifts materials, performs clean-up operations, performs logging and surface mining operations, and perform demolitions.
- communicates through various techniques including hand signals

## **HOISTING ENGINEER — MOBILE CRANE OPERATOR 1**

A Hoisting Engineer — Mobile Crane Operator 1 maintains and operates conventional lattice and telescopic boom mobile cranes that can lift, move, position and place materials and equipment weighing more than 16,000 pounds, such as concrete, steel, gravel and other construction supplies and machinery at construction and industrial sites, ports, factories, warehouses, dockyards or rail yards. Specifically, a Hoisting Engineer — Mobile Crane Operator 1:

- performs pre-operational inspections
- prepares and transports cranes
- assembles and dismantles cranes
- plans crane 'lifts' including calculating crane capacity and determining load weights
- sets up, positions and stabilizes the crane before the 'lift'
- performs various rigging procedures

*Hoisting Engineer—Mobile Crane Operator 1 is classified as a compulsory trade, which means that individuals working in the trade are required by law to hold a certificate of qualification.*

## **HOISTING ENGINEER — MOBILE CRANE OPERATOR 2**

A Hoisting Engineer — Mobile Crane Operator 2 maintains and operates hydraulically controlled mobile cranes capable of lifting, moving, positioning and placing materials and equipment weighing more than 16,000 pounds but no more than 30,000 pounds, such as concrete, steel, gravel and other construction supplies and machinery at construction and industrial sites, ports, factories, warehouses, dockyards or rail yards. Specifically, a Hoisting Engineer — Mobile Crane Operator 2:

- performs pre-operational inspections
- prepares and transports cranes
- assembles and dismantles cranes
- plans crane 'lifts' including calculating crane capacity and determining load weights
- sets up, positions and stabilizes the crane before the 'lift'
- performs various rigging procedures and maintenance on cranes

*Hoisting Engineer—Mobile Crane Operator 2 is classified as a compulsory trade, which means that individuals working in the trade are required by law to hold a certificate of qualification.*

## **HOISTING ENGINEER — TOWER CRANE OPERATOR**

A Hoisting Engineer — Tower Crane Operator maintains and operates tower cranes to lift, move, position and place materials and equipment, working in construction, surface mining, shipbuilding, offshore drilling rigs and railway settings. Specifically, a Hoisting Engineer — Tower Crane Operator:

- performs pre-operational inspections
- plans crane 'lifts' including calculating crane capacity and determining load weight
- performs rigging
- participates in setting up, dismantling and jacking cranes
- performs regular inspections, minor repairs and maintenance

*Hoisting Engineer — Tower Crane Operator is classified as a compulsory trade, which means that individuals working in the trade are required by law to hold a certificate of qualification.*

## **IRONWORKER – GENERALIST / STRUCTURAL AND ORNAMENTAL \***

Ironworkers fabricate, erect, hoist, install, repair and service structural ironwork, precast concrete, concrete reinforcing materials, curtain walls, ornamental iron and other metals used in the construction of buildings, bridges, highways, dams and other structures and equipment. Ironworkers perform some or all of the following duties:

- Read blueprints and specifications to lay out work
- Unload and position steel units so each piece can be hoisted as needed
- Erect and install scaffolding, hoisting equipment and rigging
- Signal crane operator to position steel units according to blueprints
- Align and weld or bolt steel units in place
- Erect structural and architectural precast concrete components for buildings, bridges, towers and other structures
- Assemble and erect prefabricated metal structures
- Install ornamental and other structural metalwork such as curtain walls, metal stairways, railings and power doors
- Examine structures and equipment for deterioration, defects or non-compliance with specifications
- May dismantle structures and equipment.

## **PAINTER AND DECORATOR — COMMERCIAL AND RESIDENTIAL**

A Painter and Decorator — Commercial and Residential applies decorative and protective finishes in residential, commercial, and institutional settings. Specifically, a Painter and Decorator — Commercial and Residential:

- reads specifications to determine quantities of materials required
- prepares and cleans surfaces using methods such as scraping, sanding, sandblasting, hydro-blasting and steam cleaning
- mixes coatings according to manufacturer's specifications
- applies coatings using brushes, rollers or spray equipment
- practices quality control
- assembles and erects scaffolding, swing stages and other access equipment

## **PAINTER AND DECORATOR — INDUSTRIAL**

A Painter and Decorator — Industrial applies protective finishes in commercial, institutional and industrial settings. They prepare a variety of surfaces (wood, masonry, drywall, plaster, concrete, synthetics, stucco and metal) prior to the application of materials such as paint, high performance coatings, waterproofing, fireproofing, and specialty finishes. Specifically, a Painter and Decorator — Industrial:

- reads specifications to determine quantities of materials required
- prepares and cleans surfaces using methods, such as scraping, sanding, sandblasting, hydro-blasting and steam cleaning
- mixes coatings according to manufacturer's specifications
- applies coatings using brushes, rollers or spray equipment
- practices quality control
- assembles and erects scaffolding, swing stages and other access equipment

## **PLUMBER**

A Plumber installs, repairs and maintains piping systems, fixtures and other plumbing equipment used for water distribution, drainage and waste disposal. Specifically, a Plumber:

- lays out, assembles, installs, maintains and repairs piping, fixtures and other components for the supply or disposal of water for any domestic or industrial purpose
- connects any appliance that uses water
- installs the piping for any process, including the conveyance of gas, or any tubing for a pneumatic or air-handling system
- reads and understands design drawings, manufacturers' literature, and installation diagrams for piping and appliances

*Plumber is classified as a compulsory trade, which means that individuals working in the trade are required by law to hold a certificate of qualification.*

## **PRECAST CONCRETE ERECTOR \***

Precast concrete erectors guide hoisting engineers and crane operators in aligning concrete panels and slabs into place when constructing a new building. They are skilled at reading architectural drawings and diagrams, loading and unloading concrete pieces, aligning and bolting panels together, and applying grout between the cracks in the concrete to finish the walls. Specifically, Precast Concrete Erectors:

- Load and unload precast units
- Conduct pre-erection surveys
- Install and align precast concrete units by checking environmental conditions
- Install precast concrete connections
- Make welded precast connections
- Apply grout, preparing concrete surfaces, installing formwork around joints
- Protect precast concrete units and related hardware and joint details by sequencing erection work, inspecting existing work, installing protective covers, and applying protective coatings.

## **REFRIGERATION AND AIR CONDITIONING SYSTEMS MECHANIC**

A Refrigeration and Air Conditioning Systems Mechanic works on refrigeration, cooling and combined heating cooling combination systems including geo-exchange systems in residential, industrial, commercial, and institutional settings. Specifically, a Refrigeration and Air Conditioning Systems Mechanic:

- plans, lays out, installs, starts-up, connects, maintains, services, repairs, tests, verifies, commissions and decommissions refrigeration and AC systems, electronic components and their accessories
- installs and connects piping for the purpose of conveying all types of refrigerants used for both primary and secondary heating and cooling
- checks efficiency outputs and parameters; inspects and checks operation and integrity of components; determines set points; replaces defective, leaking, discoloured and worn components; performs shut-downs and lock outs; makes adjustments to pressures and controls; cleans and lubricates components; checks calibrations; reassembles and repairs components and systems; starts-up, tests and charges the systems
- measures, cuts, bends, threads and connects pipe to functional components and utilities and services, tests, adjusts, commissions and decommissions the system

*Refrigeration and AC Systems Mechanic is classified as a compulsory trade, which means that individuals working in the trade are required by law to hold a certificate of qualification.*

## **REINFORCING RODWORKER \*\***

Reinforcing rodworkers fabricate and place steel bars in concrete forms to reinforce concrete structures. Rebar is placed on suitable supports and is then tied together with tie wire. Reinforcing rodworkers also install Post Tensioning Tendons (cables). Reinforcing rodworkers are employed wherever reinforced concrete is used in the construction of such structures as buildings, highways, drainage channels, bridges, stadiums, and airports. Specific duties include:

- Fabricate and place steel bars (rebar) in concrete forms to reinforce structures
- Place rebar on appropriate supports and tie them together with tie wire
- Install post-tensioning tendons (cables) to place in concrete forms along reinforcing steel
- Stress the tendons using hydraulic jacks and pumps after the concrete is poured and hardened

## **RESTORATION MASON**

A Restoration Mason does similar work to a cement mason or a brick layer. However, their work is done on structures years after the original work is performed. Specialized restoration masons repair and restore heritage buildings and monuments. Specifically, a Roofer:

- Maintains, repairs, rebuilds and seals walls, floors, arches, pavings, partitions, fireplaces, chimneys, smokestacks and other structures of heritage buildings, monuments and older structures.
- Works with materials such as brick, natural stone, manufactured stone, tiles, precast masonry panels, glass blocks, concrete blocks, masonry units, insulation and membranes.

## **ROOFER**

A Roofer installs, repairs and replaces flat and sloped roofs involving a variety of materials with different application methods including shingles, slate, shakes, and roofing tiles on sloped roofs and membrane systems. Specifically, a Roofer:

- installs, repairs and replaces flat and sloped roof systems
- works with membrane roofing systems
- installs, replaces and repairs shingles, slate, shakes and roofing tiles on sloped roofs, green roofs and solar panels
- waterproofs and damp-proofs roof systems

## **SHEET METAL WORKER**

A Sheet Metal Worker designs, creates, assembles installs, and repairs sheet metal products. Specifically, a Sheet Metal Worker:

- manufactures, creates, assembles, handles, erects, installs, dismantles, reconditions, adjusts, alters, repairs and/or services all ferrous and nonferrous sheet metal work of No. 10 U.S. Gauge or of any equivalent or lighter gauge and all other materials used in lieu thereof
- reads and understands shop and field sketches used in fabrication and erection, including those taken from original architectural and engineering drawings or sketches
- fabricates or installs metal cladding over insulation

*Sheet Metal Worker is classified as a compulsory trade, which means that individuals working in the trade are required by law to hold a certificate of qualification.*

## **SPRINKLER AND FIRE PROTECTION INSTALLER**

A Sprinkler and Fire Protection Installer lays out, installs, maintains, modifies, inspects and tests fire protection systems, including water-based and specialty fire suppression systems in a variety of environments. Specifically, a Sprinkler and Fire Protection Installer:

- installs water supplies above and below grade for fire protection systems
- installs fire pumps, drivers and controllers, commissions, detection, protection and control systems
- installs, maintains, and tests water-based fire protection systems

*Sprinkler and Fire Protection Installer is classified as a compulsory trade, which means that individuals working in the trade are required by law to hold a certificate of qualification.*

## **STEAMFITTER**

A Steamfitter lays out, assembles, maintains and repairs piping that carry water, steam, fluids, gases, chemicals and fuel for heating, cooling, lubricating and process piping systems. Specifically, a Steamfitter:

- reads and understands design drawings, manufacturers literature and installation diagrams
- lays out, assembles, installs, maintains, and repairs heating, cooling, process or industrial systems
- installs piping for any process, including those that conveys gas or pneumatic or air-handling system
- installs high-pressure piping for any process
- installs and maintains instrumentation control systems

*Steamfitter is classified as a compulsory trade, which means that individuals working in the trade are required by law to hold a certificate of qualification.*

## **TERRAZZO, TILE AND MARBLE SETTER**

A Terrazzo, Tile and Marble Setter covers interior and exterior walls, floors with terrazzo, tile and/or marble by preparing, measuring and marking the surface to be covered, mixing and applying mortar, mastic, cement, or other adhesives, using hand tools, laying mosaic tiles and removing and replacing cracked or damaged tiles. Specifically, a Terrazzo, Tile and Marble Setter:

- uses and maintains electrical, pneumatic and hydraulic power tools
- interprets blueprints and specifications
- inspects and verifies materials and tools, and sets plumb, level and square lines and surfaces
- prepares sub-surface
- installs terrazzo and tile
- performs mechanical installation of natural stone on walls
- installs natural stone indoors by conventional or stacking method
- installs natural stone slabs on floors and counter tops

## **WELDER**

A Welder permanently joins pieces of metal or manufactured parts using metal filler and heat and/or pressure; builds structures and repairs broken or cracked parts according to specifications; and carries out special processes, such as welding studs and brazing. Specifically, a Welder:

- lays out, cuts, and forms metals to specifications
- fits sub-assemblies and assemblies together and preparing assemblies for welding
- uses three major types of welding: arc, gas, and resistance
- uses various welding and cutting processes to join structural steel and cut metal in vessels, piping and other components
- fabricates parts, tools, machines and equipment
- joins parts being manufactured, builds structures and repairs damaged or worn parts
- controls for quality before, during and after welding

*Certain tasks which may be performed by a Welder legally require the individual to be certified by the Technical Standards and Safety Authority.*

**Source: Ontario College of Trades**

*\* Ironworker and Precast Erector descriptions are derived from the 2016 National Occupation Classification*

*\*\*Reinforcing Rodworker description is from [www.ironworkers.org](http://www.ironworkers.org)*





## Ontario Construction Secretariat – About Us

The Ontario Construction Secretariat (OCS) was formed in 1993 to represent the collective interests of the unionized construction industry in Ontario's industrial, commercial and institutional (ICI) construction sector.

As a joint labour-management organization, OCS is dedicated to enhancing Ontario's unionized ICI construction industry by developing relationships, facilitating dialogue and providing value-added research.

Research is the foundation of the OCS that underpins each of the OCS strategic objectives: Improved Labour Relations; Positive Perceptions of Unionized Construction; and Supportive Public Policy.

Our stakeholders include the twenty-five unionized construction trades and their contractor partners. Representing over 100,000 union members and 5,000 union contractors, the OCS is a trusted leader in delivering non-partisan and impartial research and advice to our industry and government stakeholders.

If you would like to learn more about the Ontario Construction Secretariat, visit our website at [www.iciconstruction.com](http://www.iciconstruction.com), and follow us on social media:

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