

## **EXPLORING COMMUNITY OPPORTUNITIES**

Different industries have unique sets of requirements, skills, and expectations that would be valuable for students to be aware of while exploring potential internship opportunities. Additionally, it is beneficial for employers to understand what is required of them when seeking to provide students with internships.

This document is created to help you discover what interns and employers need to know about potential internship opportunities:

1. The first template is the **Employer/Student Needs to Know** form. This template outlines what alumni and students will need to know about your industry, as well as what your organization will need to know about hiring interns.
2. The second template is a sample **Employer/Student Needs To Know** form completed by ArcelorMittal from Hamilton, Ontario.
3. The final template is a sample **Student Educational Requirements** form. This template can help students discover the pre-career requirements needed for a specific industry.

**Employer/Student Needs to Know**

<b>What Students Need to Know</b>	
What is the industry and what does it involve?	
What specific employment positions exist within this industry?	
Is there a possibility of career movement and growth/promotions within this industry?	
Are learnings transferable to another sector? <i>The skills developed in a certain industry may allow a student to build skills that can be applied to another sector. Versatility is valuable.</i>	
What are the educational requirements for each occupation within this industry? <i>For example, do you need to: attend specific institutions that offer required schooling or training, have a specific number of years of education, have done a co-op or placement, etc.?</i>	
What is the average salary for the positions you described above?	
What is the labour/job market like? Are there positions available? <i>Can be viewed in a local/regional context, as well as with a larger scope, such as what the job market looks like in other parts of Canada.</i>	
How much experience is required for the different positions?	
Are there entry-level opportunities, or is prior experience required?	

<b>What Employers Need to Know</b>	
What are useful learnings?	
How will you evaluate the internship?	
Is the company located in the same general vicinity as a Pathways Program location?	
How accessible is the industry by public transit?	
What must a trade-based company specifically prepare in order to accommodate Pathways student internship/work opportunities?	
○ Is there an age requirement?	
○ Is insurance required?	
○ Is workplace safety training required?	
○ Is safety equipment required?	
○ What are the wages?	
○ Is there an employment agreement?	
○ What is the timeline?	

**Employer/Student Needs to Know: Example (ArcelorMittal- Advanced Manufacturing)**

The following is the Employer/Student Needs to Know document completed by our partners, ArcelorMittal, in Hamilton.

<b>What Students Need to Know</b>	
What is the industry? What does it involve?	Locally we make the steel that is used to make everything from cars to appliances as well as structural steels for construction from the global perspective.
What specific employment positions exist within this industry?	Operations – Employees who operate the equipment that make the steel. Trades – Industrial Electrical and Industrial Mechanics have the highest need and availability. Steamfitters, Instrumentation Techs, Mobile Equipment Operators, Welders, Machinists, Bricklayers and HVAC are others.  Professional Technical – Metallurgy, Chemical, Financial, Commercial,
Is there a possibility of career movement and growth/promotions within this industry?	Room for movement locally within ArcelorMittal Dofasco, as well as Globally in ArcelorMittal.
Are learnings transferable to another sector? The skills developed in a certain industry may allow a student to build skills that can be applied to another sector. Versatility is valuable.	Operations Jobs may not be transferrable. Trades and Technical Professional positions are transferrable to other industries.
What are the educational requirements for each occupation?  • Possible institutions that offer school/training, number of years of education, co-op or practicum opportunities, apprenticeships etc.	Mohawk College is ArcelorMittal’s intake school for the Industrial Mechanic and Industrial Electricians.  Mohawk College and McMaster University graduates are also good candidates into the Professional and Technical positions.
What is the average salary?	This increases with seniority and experience. The Ministry of Training Colleges and Universities regulates wages for apprenticeship programs. (@\$22/hr for hourly entry level positions)

<p>Outlook- what is the labour/job market like? Are there positions available?</p> <ul style="list-style-type: none"> <li>• Can be viewed in a local/regional context, as well as with a larger scope, such as what the job market looks like in other parts of Canada.</li> </ul>	<p>ArcelorMittal will have over a 20% turnover in the next 5 years.</p>
<p>How much experience (if any) is required for the different positions?</p>	<p>Experienced candidates will always have an advantage over non-experienced.</p>
<p>Are there entry-level opportunities, or is prior experience required?</p>	<p>Mohawk College students work May-August in a co-op program. These students are on a direct career path upon obtaining their diploma in two years time. If they receive positive reviews in their co-op employment positions and have successfully completed all their coursework, they are able to apply for a full-time position.</p>

What Employers Need to Know	
What are useful learnings?	Safety Training and experience are beneficial.
Is the industry located in the same general vicinity as a Pathways Program location?	Yes
How accessible is the industry by public transit?	There is public transit to ArcelorMittal Dofasco.
What must a trade-based company specifically prepare in order to accommodate Pathways student internship/work opportunities?	
○ Is there an age requirement?	Minimum age requirements- As set by the company. (Trades based companies may require students to be 18 years of age)
○ Is insurance required?	Coop or Casual work is insured at AMD.
○ Is workplace safety training required?	Workplace safety training- New Employment Safety Training (NEST), and two days of onboarding procedures. There could be up to two weeks of workplace training in order to prepare students before their term of employment.
○ Is safety equipment required?	Safety Equipment Provided
○ What are the wages?	Wages- Are there minimum wage requirements? (Ex. Apprentices make certain percentages of wages at different stages as they progress through the program.)
○ Is there an employment agreement?	Contracts: Signing a contract gives responsibility to both parties to ensure that the student is fulfilling their job requirements, as well as for the company to show commitment. This will create mutual ownership over the position.
○ What is the timeline?	It is important to have a schedule in place in order to accommodate a student position in an efficient manner.

## **INDUSTRIAL MECHANICS**

(NOC 7311)

### **Job Description:**

Industrial mechanics install, maintain, troubleshoot, and repair stationary industrial machinery and mechanical equipment. Industrial mechanics are employed in manufacturing plants, utilities, and other industrial establishments.

**Included Job Titles:** Industrial mechanic, industrial mechanic apprentice, plant equipment mechanic, treatment plant maintenance mechanic.

### **Job Duties:**

**Industrial mechanics (and construction millwrights) perform some or all of the following duties:**

- Read blueprints, diagrams, and schematic drawings to determine work procedures
- Install, align, dismantle, and move stationary industrial machinery and mechanical equipment, such as pumps, fans, tanks, conveyors, furnaces, and generators according to layout plans using hand and power tools
- Operate hoisting and lifting devices such as cranes, jacks, and tractors to position machinery and parts during the installation, set-up, and repair of machinery
- Inspect and examine machinery and equipment to detect and investigate irregularities and malfunctions
- Install, troubleshoot, and maintain power transmission, vacuum, hydraulic, and pneumatic systems, and programmable logic controls
- Adjust machinery and repair or replace defective parts
- Operate machine tools such as lathes and grinders to fabricate parts required during overhaul, maintenance, or set-up of machinery
- Clean, lubricate, and perform other routine maintenance work on machinery
- Construct foundations for machinery or direct other workers to construct foundations
- Assemble machinery and equipment prior to installation using hand and power tools and welding equipment.

### **Wages:**

Location	Wage (\$/hr) Low	Wage (\$/hr) Median	Wage (\$/hr) High
Hamilton/Niagara Region	17.50	27.00	38.06
Ontario	17.50	27.00	39.70
Canada	17.30	27.50	40.00

## **Outlook:**

### **Occupation Projection for Canada:**

- **Job openings** are expected to total **65,778** (due to retirement and expansion demand) over the 2013-2022 period.
- **Job seekers** available to fill the openings are expected to total **70,678** (arising from new graduates, immigration, and mobility).
- Therefore, this occupation will be in a slight excess supply (a surplus of workers) if the projected number of job openings is smaller than the projected number of job seekers.

Employment in 2012:

- Non-student: 194,817
- Median age of workers: 42
- Average age of retirement: 62

### **Education and Job Requirements:**

- The apprenticeship-training program consists of on-the-job and in-school training.
- Time-frame: 8,000 hours (approximately four years) consisting of:
  - 7,280 hours of on-the-job work experience
  - 720 hours of in-school training

Ontario College of Trades — Industrial Mechanic Millwright

[http://www.collegeoftrades.ca/wp-content/uploads/TFS\\_Industrial\\_Mechanic\\_Millwright\\_Oct2015.pdf](http://www.collegeoftrades.ca/wp-content/uploads/TFS_Industrial_Mechanic_Millwright_Oct2015.pdf)

Apprenticeship Training Standard for Industrial Mechanic (Millwright):

<http://www.collegeoftrades.ca/wp-content/uploads/IMM-433A-TS-ENG-FINAL-v88.5x11-1.pdf>

Competency Analysis Profile:

<http://www.collegeoftrades.ca/wp-content/uploads/IMM-433A-ENG-CAP-CHART.pdf>

## INDUSTRIAL ELECTRICIANS

(NOC 7242)

### **Job Description:**

Industrial electricians install, maintain, test, troubleshoot, and repair industrial electrical equipment and associated electrical and electronic controls. They are employed by electrical contractors and maintenance departments of factories, plants, mines, shipyards, and other industrial establishments.

**Included Job Titles:** electrician, shipyard, industrial electrician, industrial electrician apprentice, marine electrician, mill electrician, mine electrician, plant electrician, plant maintenance electrician.

### **Job Duties:**

Industrial electricians perform some or all of the following duties:

- Read and interpret drawings, blueprints, schematics, and electrical code specifications to determine layout of industrial electrical equipment installations
- Install, examine, replace, or repair electrical wiring, receptacles, switch boxes, conduits, feeders, fibre-optic and coaxial cable assemblies, lighting fixtures, and other electrical components
- Test electrical and electronic equipment and components for continuity, current, voltage, and resistance
- Maintain, repair, install, and test switchgear, transformers, switchboard meters, regulators, and reactors
- Maintain, repair, test, and install electrical motors, generators, alternators, industrial storage batteries, and hydraulic and pneumatic electrical control systems
- Troubleshoot, maintain, and repair industrial, electrical, and electronic control systems and other related devices
- Conduct preventive maintenance programs and keep maintenance records
- May install, maintain, and calibrate industrial instrumentation and related devices.

### **Wages:**

Location	Wage (\$/hr) Low	Wage (\$/hr) Median	Wage (\$/hr) High
Hamilton/Niagara Region	17.00	30.00	40.00
Ontario	20.00	30.00	38.00
Canada	19.23	32.00	44.00

## **Outlook:**

### **Occupation Projection in Canada:**

- **Job openings** are expected to total **76, 948** (due to retirement and expansion demand) over the 2013-2022 period.
- **Job seekers** available to fill the openings are expected to total **62,002** (arising from new graduates, immigration, and mobility).
- Therefore, this occupation will be in excess demand (a shortage of workers) if the projected number of job openings is significantly greater than the projected number of job seekers.

### **Employment in 2012:**

- Non-student: 178,650
- Median age of workers: 39
- Average age of retirement: 59

### **Education and Job Requirements:**

- The apprenticeship-training program consists of on-the-job and in-school training.
- Time-frame: 9,000 hours (approximately five years) consisting of:
  - 8,160 hours of on-the job work experience
  - 840 hours of in-school training

Ontario College of Trades — Industrial Electrician:

[http://www.earnwhileyoulearn.ca/wp-content/uploads/2016/01/TFS\\_Industrial\\_Electrician\\_Nov2015.pdf](http://www.earnwhileyoulearn.ca/wp-content/uploads/2016/01/TFS_Industrial_Electrician_Nov2015.pdf)

Apprenticeship and Training Standards for Industrial Electrician:

<http://www.collegeoftrades.ca/wp-content/uploads/Industrial-Electrician-442A-EN-TS3.pdf>

Competency Analysis Profile:

[http://www.collegeoftrades.ca/wp-content/uploads/M\\_Industrial-Electrician-442A-EN-TS.pdf](http://www.collegeoftrades.ca/wp-content/uploads/M_Industrial-Electrician-442A-EN-TS.pdf)

Reference:

Government of Canada Job Bank. Retrieved from: <http://www.jobbank.gc.ca/report-eng.do?area=6261&lang=eng&noc=7242&action=final&ln=n&regionKeyword=Hamilton%2C+O>

[ntario&s=3&source=0&titleKeyword=industrial+electrician#report\\_tabs\\_container2](#). Accessed on: February 16, 2016.

*Ontario College of Trades*. Retrieved from: <http://www.earnwhileyoulearn.ca/156trades>. Accessed