

Automotive Industry Labour Market Analysis: Post-secondary Education Report

The project is a collaboration of the Canadian Skills Training and Employment Coalition, Prism Economics and Analysis, and the Automotive Policy Research Centre.

This report was prepared for the Auto Labour Market Information (LMI) Project.

The goal of the Auto LMI project is to help stakeholders better understand the automotive labour market. The Project will create industry-validated, regional, occupational supply and demand analyses and forecasts and skill profiles for skilled trades and other key skilled occupations in the broader automotive sector including vehicle assemblers, parts manufacturers and technology companies that supply the industry. The project will also examine various labour market trends in the sector and facilitate discussions among stakeholders about how to address any forecasted skills shortages and other labour market challenges. The planned outcome of the project is enhanced regional LMI that will support colleges, employers, policy makers and other stakeholders in taking practical steps to address skills shortages and other labour market challenges in the automotive sector.

This project is funded by the Government of Canada's Sectoral Initiatives Program. The opinions and interpretations in this publication are those of the author(s) and do not necessarily reflect those of the Government of Canada.

Canadian Skills Training and Employment Coalition, cstec.ca
Prism Economics and Analysis, prismeconomics.com
Automotive Policy Research Centre, automotivepolicy.ca

October 2019

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Introduction

Canada's automotive industry plays an important role in the economy of the country. The industry has a complex supply chain and changes quickly. Understanding links between various sectors that produce for the automotive industry means relying on data that may be a few years old. As a result, we are still working on how to define the sector and measure the size of the workforce. However, in building our forecasting model of the sector, we are including the jobs in NAICS other than 3361 and 3363 that are dependent on the automotive sector and our preliminary research indicates that between 177,000 jobs and 188,000 jobs are dependent on the sector. This is slightly more than what was reported earlier this year by Statistics Canada (Statistics Canada, 2019). Our preliminary work also indicates that included in those job numbers are approximately 20,000 skilled trades and over 28,000 senior management, engineering and other jobs with a technical orientation. Our preliminary estimate of the economic output of automotive assembly and exported automotive parts is well over \$83 billion per year. This paper looks at the post-secondary education programs that can provide a labour supply for the automotive sector in Canada.

Automotive Manufacturing-Related Occupations

Table 1 is a list that consists of all of the 49 occupations that was identified as being related to the automotive sector using Statistics Canada's list of NOCs. The 49 selected occupations related to the automotive manufacturing industry is being used in our forecast of labour supply and demand. The list of occupations was developed considering two factors: number of employees in the occupation; and degree of technical skill related to the occupation. We started by identifying the occupational designations that are held by at least 100 employees in at least one of the automotive producing regions that we are examining. There are 41 occupations that meet that test. Motor vehicle assemblers, inspectors and testers are by far the largest occupational group, but there are also a fair number of material handlers, motor vehicle assembly supervisors, and manufacturing managers.

We also identified 8 more occupations that don't meet the test of at least 100 employees holding the occupational designation in at least one region, but are highly skilled and/or technically oriented and therefore important to the sector. Included in that group are metallurgical and material engineers, database analysts, and information testing technicians.

Table 1: List of Occupations to be used in forecasting model

NOC/Occupation
0016 Senior managers - construction, transportation, production and utilities
0211 Engineering managers
0213 Computer and information systems managers
0911 Manufacturing managers
1121 Human resources professionals
1521 Shippers and receivers
1523 Production logistics coordinators
2132 Mechanical engineers
2133 Electrical and electronics engineers
2141 Industrial and manufacturing engineers
2142 Metallurgical and materials engineers
2147 Computer engineers (except software engineers and designers)
2171 Information systems analysts and consultants
2172 Database analysts and data administrators
2173 Software engineers and designers
2174 Computer programmers and interactive media developers
2232 Mechanical engineering technologists and technicians
2233 Industrial engineering and manufacturing technologists and technicians
2241 Electrical and electronics engineering technologists and technicians
2243 Industrial instrument technicians and mechanics
2281 Computer network technicians
2283 Information systems testing technicians
7201 Contractors and supervisors, machining, metal forming, shaping and erecting trades and related occupations
7231 Machinists and machining and tooling inspectors
7232 Tool and die makers
7237 Welders and related machine operators
7241 Electricians (except industrial and power system)
7242 Industrial electricians
7301 Contractors and supervisors, mechanic trades
7311 Construction millwrights and industrial mechanics
7321 Automotive service technicians, truck and bus mechanics and mechanical repairers
7452 Material handlers
7511 Transport truck drivers

9221 Supervisors, motor vehicle assembling
9222 Supervisors, electronics manufacturing
9223 Supervisors, electrical products manufacturing
9224 Supervisors, furniture and fixtures manufacturing
9226 Supervisors, other mechanical and metal products manufacturing
9227 Supervisors, other products manufacturing and assembly
9412 Foundry workers
9416 Metalworking and forging machine operators
9417 Machining tool operators
9422 Plastics processing machine operators
9522 Motor vehicle assemblers, inspectors and testers
9523 Electronics assemblers, fabricators, inspectors and testers
9526 Mechanical assemblers and inspectors
9535 Plastic products assemblers, finishers and inspectors
9536 Industrial painters, coaters and metal finishing process operators
9619 Other labourers in processing, manufacturing and utilities

Post-secondary Education programs by automotive region

We identified post-secondary education and training programs offered by publicly-funded universities and colleges, and programs/courses offered by private career colleges that match key occupations in demand in the broader automotive sector. The information is based on a dataset developed to support forecasting of labour demand in the automotive manufacturing sector. The list of programs includes institution name, program name, and occupations by automotive region for key occupations in the skilled trades, engineers/technical/managers, and production/supervisors. A more detailed list of programs will be available through an online tool which can be used by human resources staff to identify which institutions graduate students who could fill jobs in their companies. The list of tables can be found below.

Regional Tables

Automotive Region: Golden Horseshoe

a) Engineers/Technical/Managers

Automotive Region – Golden Horseshoe: Engineers/Technical/Managers		
NOC Code – Occupation	Institution	Program Name
2132 – Mechanical Engineers	McMaster University	Mechanical Engineering
		Technology
	Ryerson University	Mechanical and Industrial Engineering
		Mechanical Engineering
	UOIT	Automotive Engineering
		Mechanical Engineering
		Mechatronics Engineering
	University of Toronto	Mechanical and Industrial Engineering
		Mechanical Engineering
		Robotics Engineering
	EPIC College	Mechanical Engineering Design Technology
	Metro College	Mechanical Engineering Design and Technology
	North American College	Mechanical Engineering Design and Technology
	Petrel College	Mechatronics Engineering Technology
2133 – Electrical Engineers	McMaster University	Electrical Engineering
		Electrical and Computer Engineering
	Ryerson University	Electrical and Computer Engineering
		Electrical Engineering
	UOIT	Electrical and Computer Engineering
		Electrical Engineering
	University of Toronto	Electrical Engineering
		Electrical and Computer Engineering
	Canadian Scitech College	Electrical and Electronics Engineering Design and Technology

Automotive Region – Golden Horseshoe: Engineers/Technical/Managers

NOC Code – Occupation	Institution	Program Name
2133 – Electrical Engineers	North American College	Electrical and Electronic Engineering Design and Technology
	Petrel College	Electrical Engineering Technology
2141 – Industrial & Manufacturing Engineers	Mohawk College	Industrial Engineering - Level 1
		Manufacturing Engineering Technician - Automation (Industrial Mechanic Millwright)
	McMaster University	Engineering Design
	Ryerson University	Industrial Engineering
	UOIT	Applied and Industrial Mathematics
		Manufacturing Engineering
	University of Toronto	Industrial Engineering
2171 - Information systems analysts and consultants	Trent University	Computing Systems and Physics
		Computing Systems
	Canadian All Care College	Software Quality Assurance and Testing Analyst
2173 – Software Engineers & Designers	Centennial College	Software Engineering Technician
		Software Engineering Technology
	Durham College	Artificial Intelligence Analysis, Design and Implementation
	Humber College	Enterprise Software Development
	Mohawk College	Computer Science - Software Engineering Specialist
		Computer Systems Technology - Software Development
		Microcomputer Engineering Hardware
		Microcomputer Engineering Software
	Seneca College	Software Development
	McMaster University	Computing Software
		Software Engineering
	Trent University	Software Engineering
	UOIT	Software Engineering
	University of Toronto	Machine Intelligence

Automotive Region – Golden Horseshoe: Engineers/Technical/Managers

NOC Code – Occupation	Institution	Program Name
2173 – Software Engineers & Designers	APLUS Institute	Software Application Developer
	Canadian Business College	Full Stack Software Development
		Software Engineering
	Canadian Scitech College	Software Development
	Canadian Technology College	Engineering Design/Drafting
	General Assembly	Software Engineering (mostly workshops)
	NetPlus College	Software Engineering
2174 - Computer programmers and interactive media developer	Niagara College	Computer Engineering Technician
2232 – Mechanical Engineering Technologist & Technicians	Centennial College	Mechanical Engineering Technician - Design
		Mechanical Engineering Technology - Industrial
		Technology Foundations
		Trades Foundations - Motive Power
	Collège Boréal	Mechanical Techniques
	Durham College	Mechanical Engineering Technician
		Mechanical Engineering Technician - Non-Destructive Evaluation
		Mechanical Engineering Technology
	George Brown College	Automation Integration Rockwell
		Automation Technician
		Mechanical Engineering Technology - Design
		Mechanical Techniques
		Programmable Logic Controllers
		Robotics Technician
	Humber College	Mechanical Engineering Technician
		Mechanical Engineering Technology

Automotive Region – Golden Horseshoe: Engineers/Technical/Managers

NOC Code – Occupation	Institution	Program Name
2232 – Mechanical Engineering Technologist & Technicians	Mohawk College	Mechanical Design
		Mechanical Engineering Technology
		Mechanical Techniques (Advanced Manufacturing Operations)
		Mechanical Techniques (Electrical Monitoring and Systems)
		Mechanical Techniques (Manufacturing Processes)
	Niagara College	Industrial Automation
		Mechanical Engineering Technician
		Mechanical Engineering Technology
		Motive Power Technician - Automotive
	Seneca College	Mechanical Engineering Technician (Tool Design)
		Mechanical Engineering Technology - Industrial Design
		Mechanical Technician - CNC Programming
	Sheridan College	Mechanical Engineering Technician
		Mechanical Engineering Technology
		Mechanical Engineering Technician - Design and Drafting
		Mechanical Engineering Technology - Design and Drafting
		Mechanical Engineering
		Siemens Mechatronics Systems Certification
	Beta College	Automation Technology
	Cortechma Academy	Automation Technology
2233 – Industrial Engineering and Manufacturing Technologists and Technicians	Durham College	AutoCAD
	Humber College	AutoCAD Design
		Industrial Design
	Mohawk College	Advanced AutoCAD
		AutoCAD Design
		Manufacturing Techniques

Automotive Region – Golden Horseshoe: Engineers/Technical/Managers

NOC Code – Occupation	Institution	Program Name
2233 – Industrial Engineering and Manufacturing Technologists and Technicians	Niagara College	AutoCAD Operator
	Sheridan College	Computer Aided Design
	OCAD	Industrial Design
	Canadian Scitech College	Mechanical Design and CAD Program
	CITI College	Chemical Process Engineering Technology
	JRS College	Engineering Design and Drafting Technologist
	Petrel College	Chemical Process Technology
	Stanford International College	Industrial Automation
2241 – Electrical and Electronics Engineering Technologists and Technicians	Centennial College	Electrical Engineering Technician
		Electrical Engineering Technology
		Electro-Mechanical Engineering Technician - Automation and Robotics
		Electronics Engineering Technician
	Collège Boréal	Computer Engineering Technician
		Computer Engineering Technologist
		Electrical Engineering Technician
		Electrical Engineering Technology
		Electronics Engineering Technology
		Electronics Engineering Technician
	Durham College	Electrical Engineering Technician
		Electromechanical Engineering Technology
		Electronics Engineering Technician
		Electronics Engineering Technology
	George Brown College	Electromechanical Engineering Technician
		Electromechanical Engineering Technology - Building Automation

Automotive Region – Golden Horseshoe: Engineers/Technical/Managers

NOC Code – Occupation	Institution	Program Name	
2241 – Electrical and Electronics Engineering Technologists and Technicians	George Brown College	Electromechanical Technician	
		Electronics Technician	
	Humber College	Computer Engineering Technology	
		Electrical Engineering Technician - Control Systems	
		Electrical Engineering Technology - Control Systems	
		Electromechanical Engineering Technician	
		Electromechanical Engineering Technology	
		Electromechanical PLC Programming	
		Electromechanical Robotics	
		Electronics Engineering Technician	
		Electronics Engineering Technology	
		Mohawk College	Computer Engineering Technician
			Computer Engineering Technician - Mechatronics Systems
	Computer Engineering Technology		
	Computer Engineering Technology - Mechatronic Systems		
	Electrical Engineering Technician - Power		
	Electrical Engineering Technology		
	Niagara College	Electrical Engineering Technician	
		Electrical Engineering Technology	
		Electronics Engineering Technician	
		Electronics Engineering Technology	
	Seneca College	Computer Engineering Technology	
		Electromechanical Engineering Technology - Automation	
		Electronics Engineering Technician	
		Electronics Engineering Technology	
	Sheridan College	Computer Engineering Technician	
		Computer Engineering Technology	

Automotive Region – Golden Horseshoe: Engineers/Technical/Managers

NOC Code – Occupation	Institution	Program Name
2241 – Electrical and Electronics Engineering Technologists and Technicians	Sheridan College	Computer Systems Technician - Software Engineering
		Computer Systems Technology - Software Development and Network Engineering
		Electrical Engineering Technician
		Electromechanical Engineering Technician
		Electromechanical Engineering Technology
		Electronics Engineering Technician
		Electronics Engineering Technology
	Vanier Community College	Computer Engineering Technology
		Computer Science Technology
		Industrial Electronics
	Cortechma Academy	Computer Technology
2243 – Industrial Instrument Technicians and Mechanics	George Brown College	Applied Principles of Industrial Maintenance
	Mohawk College	Fluid Power
		Fuel Technician Certification and Examinations
		Industrial Lubrication
		Instrumentation and Control

b) Skilled Trades

Automotive Region-Golden Horseshoe: Skilled Trades		
NOC Code – Occupation	Institution	Program Name
7231 – Machinist and Machining and Tooling Inspectors	George Brown College	Computer Numerical Control Programming
		Conventional Machining
		Mechanical Technician - CNC and Precision Machining
	Mohawk College	General Machinist
	Niagara College	General Machinist
		General Machinist Pre-Apprenticeship
		Mechanical Techniques - General Machinist
Sheridan College	General Machinist	
7232 – Tool and Die Makers	Seneca College	Mechanical Techniques (Tool and Die)
	Sheridan College	Tool and Die Maker
		Tool and Die Maker, Mechanical Techniques
		Tool/Tooling Maker
7237 – Welders and Related Machine Operators	Collège Boréal	Welding Engineering Technician
	Durham College	Canadian Welding Bureau
		Welder
		Welding Engineering Technician
	George Brown College	TIG Welding Fundamentals
		Welding Fundamentals
		Welding Techniques
	Humber College	Welding Techniques
	Mohawk College	Mechanical Techniques (Welding and Fabrication)
		Welder
		Welder Operator
	Niagara College	Welder
		Welding Technician
Welding Techniques		

Automotive Region-Golden Horseshoe: Skilled Trades

NOC Code – Occupation	Institution	Program Name
7237 – Welders and Related Machine Operators	Sheridan College	Welding and Fabrication Technician
		Welding and Fabrication Techniques
	Advanced Welding Techniques	Structural Welder Training Program
		Welder Operator Manufacturing Program
		Welder Trade Certification Program
	Canadian Welding Skills	Entry Level Multi Process Welder (FT, PT)
	Career College Group	Structural & Pressure Vessel Welder
		Welding Technology
	General Welding School	Comprehensive Welding
		General Welding
		Industrial Welding
		Pipe Welding
	Institute of Technical Trades	Welding Technology (includes license tests)
		Welder Fitter
		Welding (Master/Option A, skills upgrade)
		Welding Techniques
	Stanford International College	Welder Training (FT, PT)
		Welding 1 Specialist/Inspector
7242 – Industrial Electricians	Mohawk College	Industrial Electrician
	Sheridan College	Industrial Electrician
	Institute of Machine Tool Technology	Automation & Industrial Electrician
	Stanford International College	Industrial Electrician (PLC & Robotics)
7311 – Construction Millwrights and Industrial Electricians	Collège Boréal	Mechanical Millwright Technician
	Durham College	Industrial Maintenance Mechanic
		Industrial Mechanic Millwright

Automotive Region-Golden Horseshoe: Skilled Trades

NOC Code – Occupation	Institution	Program Name
7311 – Construction Millwrights and Industrial Electricians	Durham College	Mechanical Technician - Millwright
	George Brown College	Industrial Mechanic (Millwright)
	Humber College	Mechanical Techniques - Millwright
	Mohawk College	Industrial Mechanic (Millwright)
	Sheridan College	Industrial Mechanic Millwright

*c) Production/Supervisors***Automotive Region-Golden Horseshoe: Production / Supervisors**

NOC Code – Occupation	Institution	Program Name
9522 – Motor Vehicle Assemblers, Inspectors and Testers	George Brown College	Quality Management
	Humber College	Fundamentals of Quality Assurance

Automotive Region: Windsor

a) Engineers/Technical/Managers

Automotive Region - Windsor: Engineers/Technical/Managers		
NOC Code – Occupation	Institution	Program Name
2132 – Mechanical Engineers	University of Windsor	Automotive Engineering
		Foundations in Mechanical Engineering
		Mechanical Engineering
		Mechanical Engineering - Automotive Option
		Mechanical Engineering - Materials Option
2133 – Electrical Engineers	University of Windsor	Electrical Engineering
2141 – Industrial & Manufacturing Engineers	Lambton College	Quality Engineering Management
	University of Windsor	Industrial Engineering
		Industrial and Management Engineering
		Industrial and Manufacturing Systems Engineering
2171 – Information Systems Analysts and Consulting	Lambton College	Quality Assurance
2173 – Software Engineers & Designers	Lambton College	Computer Software and Database Development
	University of Windsor	Software Engineering
2232 – Mechanical Engineering Technologist & Technicians	Lambton College	Advanced Power Engineering Technology
		Embedded Systems Engineering Design
		Power Engineering Technology
	St. Clair College	Mechanical Engineering Technician - Industrial
		Mechanical Engineering Technology - Automotive Product Design
		Power Engineering Technology - Mechanical
	University of Windsor	Engineering Technology
		Finite Element Analysis with CATIA v5
		Mechanism Design and Animation with CATIA v5
		Siemens Mechatronic Systems Certification: Level One

Automotive Region - Windsor: Engineers/Technical/Managers

NOC Code – Occupation	Institution	Program Name
2233 – Industrial Engineering and Manufacturing Technologists and Technicians	St. Clair College	Mechanical Technician - CAD/CAM
2241 – Electrical and Electronics Engineering Technologists and Technicians	Lambton College	Electrical Power Distribution and Control Technician
	St. Clair College	Electrical Engineering Technician
		Electromechanical Engineering Technician - Robotics
		Electronics Engineering Technology - Industrial Automation
	Canadian College of Health Sci	Systems Software Technician
2243 – Industrial Instrument Technicians and Mechanics	Lambton College	Instrumentation and Control Engineering Technician - Industrial Automation
		Instrumentation and Control Engineering Technology - Industrial Automation
		Instrumentation and Control Technician

b) Skilled Trades

Automotive Region - Windsor: Skilled Trades		
NOC Code – Occupation	Institution	Program Name
7231 – Machinist and Machining and Tooling Inspectors	Lambton College	General Machinist
	St. Clair College	General Machinist
7232 – Tool and Die Makers	St. Clair College	Tool and Die maker
7237 – Welders and Related Machine Operators	Lambton College	Welding Techniques
	St. Clair College	Welding Techniques
	Windsor Welding Institute	Welding Technology Program
		Pipe Welder Program
7242 – Industrial Electricians	St. Clair College	Industrial Electrician
7311 – Construction Millwrights and Industrial Mechanics	Lambton College	Millwright Mechanical Technician
	St. Clair College	Industrial Mechanical Millwright

c) Production/Supervisors

Automotive Region – Windsor: Production/Supervisors		
NOC Code – Occupation	Institution	Program Name
9522 – Motor Vehicle Assemblers, Inspectors and Testers	University of Windsor	Six Sigma Green Belt

Automotive Region: Cambridge/Kitchener/Waterloo

a) Engineers/Technical/Managers

Automotive Region - Cambridge/Kitchener/Waterloo: Engineers/Technical/Managers		
NOC Code – Occupation	Institution	Program Name
2132 – Mechanical Engineers	University of Guelph	Mechanical Engineering
	University of Waterloo	Mechanical Engineering
		Mechanical and Mechatronics Engineering
		Mechanical and Mechatronics Engineering - Nanotechnology
		Mechatronics Engineering
		Physics - Quantum Information
	Wilfrid Laurier University	Mechanical Engineering
2133 – Electrical Engineers	Georgian College	Electrical Engineering
	University of Waterloo	Electric Power Engineering
		Electrical Engineering
		Electrical and Computer Engineering
		Electrical and Computer Engineering - Nanotechnology
		Electrical and Computer Engineering - Quantum Information
	Wilfrid Laurier University	Electrical Engineering
		Electrical and Computer Engineering
2141 – Industrial & Manufacturing Engineers	Conestoga College	Manufacturing Engineering
		Process Quality Engineering
		Software Quality Assurance and Test Engineering
	University of Waterloo	Combinatorics and Optimization
		Management Engineering
		Management Science - Management of Technology
2171 – Software Engineers & Designers	Conestoga College	Quality Assurance
	Wilfrid Laurier University	Computational Mathematics

Automotive Region - Cambridge/Kitchener/Waterloo: Engineers/Technical/Managers

NOC Code – Occupation	Institution	Program Name
2173 – Software Engineers & Designers	Conestoga College	Software Engineering Technician
		Software Engineering Technology
	University of Guelph	Software Engineering
	University of Waterloo	Software Engineering
	Wilfrid Laurier University	Software Systems for Ubiquitous Computing
		Software Engineering
2174 – Computer Programmers and Interactive Media Developers	University of Waterloo	Digital Experience Innovation
2232 – Mechanical Engineering Technologist & Technicians	Conestoga College	Bachelor of Mechanical Systems Engineering
		Mechanical Engineering Technology - Automated Manufacturing
		Mechanical Engineering Technology - Design and Analysis
		Mechanical Engineering Technology - Robotics and Automation
		Robotics and Industrial Automation
	Georgian College	Mechanical Engineering Technology
		Mechanical Technician - Precision Skills
2233 – Industrial Engineering and Manufacturing Technologists and Technicians	Conestoga College	CAD for Design and Manufacturing
2241 – Electrical and Electronics Engineering Technologists and Technicians	Conestoga College	Applied Electrical Motion and Control Management
		Bachelor of Electrical Systems Engineering
		Computer Engineering Technology
		Electrical Engineering Technician
		Electrical Engineering Technology
		Electronics Engineering Technician
		Electronics Engineering Technology

Automotive Region - Cambridge/Kitchener/Waterloo: Engineers/Technical/Managers

NOC Code – Occupation	Institution	Program Name
2241 – Electrical and Electronics Engineering Technologists and Technicians	Conestoga College	Electromechanical Maintenance
		Embedded Systems Development
		Mechanical Techniques - Electro-Mechanical Maintenance Bridge
	Georgian College	Electrical Engineering Technician
		Electrical Engineering Technology
2243 – Industrial Instrument Technicians and Mechanics	Conestoga College	Industrial Engineering - Basics
		Instrumentation and Control Technician

b) Skilled Trades

Automotive Region - Cambridge/Kitchener/Waterloo: Skilled Trades		
NOC Code – Occupation	Institution	Program Name
7231 – Machinist and Machining and Tooling Inspectors	Conestoga College	General Machinist
		Mechanical Technician - General Machinist
		Practical CNC Machining
	Georgian College	General Machinist
7232 – Tool and Die Makers	Conestoga College	Machine Tool Builder and Integrator
		Mechanical Technician - Tool and Die/Tool Maker
		Tool and Die Maker
	Georgian College	Tool and Die Maker
7237 – Welders and Related Machine Operators	Conestoga College	Manufacturing Engineering Technology - Welding and Robotics
		Pre-Apprenticeship Welder
		Welder
		Welding and Fabrication Technician
		Welding Engineering Technology - Inspection
		Welding Techniques
	Georgian College	Welding Techniques
	LJP Skills Training	General Welding Skills
		Pipe Welding
		Pipe Welding for Welders
		Professional Pipe Welding Plus
7242 – Industrial Electricians	Conestoga College	Electrician - Industrial
		Electrical Technician - Industrial
	Georgian College	Electrician - Industrial
7311 – Construction Millwrights and Industrial Electricians	Conestoga College	Industrial Mechanic (Millwright)
		Mechanical Techniques - Industrial Millwright
		Pre-Apprenticeship Millwright and Electrical

Automotive Region: London

a) Engineers/Technical/Managers

Automotive Region-London: Engineers/Technical/Managers		
NOC Code – Occupation	Institution	Program Name
2132 – Mechanical Engineers	Western University	Mechanical Engineering
		Mechanical and Materials Engineering
		Mechatronic Systems Engineering
2133 – Electrical Engineers	Western University	Electrical Devices for Ubiquitous Computing
		Electrical Engineering
		Electrical and Computer Engineering
		Electronic Devices for Ubiquitous Computing
2141 – Industrial & Manufacturing Engineers	Western University	Design and Manufacturing Engineering
		Integrated Engineering
2173 – Software Engineers & Designers	Western University	Artificial Intelligence
		Software Engineering
2232 – Mechanical Engineering Technologist & Technicians	Fanshawe College	Applied Mechanical Design
		Mechanical Engineering Technician - Industrial Maintenance
		Mechanical Technician - CNC/CAM
		Mechanical Techniques
2233 – Industrial Engineering and Manufacturing Technologists and Technicians	Fanshawe College	Manufacturing Engineering Technician
2241 – Electrical and Electronics Engineering Technologists and Technicians	Fanshawe College	Electrical Engineering Technician
		Electrical Engineering Technology
		Electrical Techniques
		Electromechanical Engineering Technician
		Electronics Engineering Technician - Industrial Controls

b) Skilled Trades

Automotive Region-London: Skilled Trades		
NOC Code – Occupation	Institution	Program Name
7231 – Machinist and Machining and Tooling Inspectors	Fanshawe College	General Machinist
7232 – Tool and Die Makers	Fanshawe College	Mechanical Technician - Tool & Die
7237 – Welders and Related Machine Operators	Fanshawe College	Welding Techniques
7242 – Industrial Electricians	Fanshawe College	Industrial Electrician
7311 – Construction Millwrights and Industrial Electricians	Fanshawe College	Industrial Mechanic - Millwright

Automotive Region: Eastern Ontario

a) Engineers/Technical/Managers

Automotive Region – Eastern Ontario: Engineers/Technical/Managers		
NOC Code – Occupation	Institution	Program Name
2132 – Mechanical Engineers	Carlton University	Mechanical Engineering
	Queen's University	Mathematics and Engineering
		Mechanical and Materials Engineering
	RMC of Canada	Mechanical Engineering
	University of Ottawa	Mechanical Engineering
		Mechanical Engineering and Computing Technology
		Mechanical Engineering, Engineering Management and Entrepreneurship
2133 – Electrical Engineers	Carlton University	Electrical and Computer Engineering
		Electrical Engineering
		Electronics
	Queen's University	Electrical Engineering
	RMC of Canada	Electrical and Computer Engineering
	University of Ottawa	Electrical Engineering
		Electrical and Computer Engineering
		Electrical Engineering and Computing Technology
		Electronic Business Technologies
		Physics and Electrical Engineering
2141 – Industrial & Manufacturing Engineers	Carlton University	Industrial Design
2173 – Software Engineers & Designers	Carlton University	Software Engineering
	Queen's University	Software Design
		Software Engineering
	University of Ottawa	Software Engineering

Automotive Region – Eastern Ontario: Engineers/Technical/Managers

NOC Code – Occupation	Institution	Program Name
2173 – Software Engineers & Designers	University of Ottawa	Software Engineering, Engineering Management and Entrepreneurship
2232 – Mechanical Engineering Technologist & Technicians	Algonquin College	Automation and Robotics
		Building Automation Systems Operations
		Mechanical Engineering Technology
		Motive Power Technician
	Loyalist College	Mechanical Techniques
2233 – Industrial Engineering and Manufacturing Technologists and Technicians	Algonquin College	Manufacturing Engineering Technician
	Loyalist College	Manufacturing Engineering Technician
2241 – Electrical and Electronics Engineering Technologists and Technicians	Algonquin College	Electrical Engineering Technician
		Electro-Mechanical Engineering Technician
		Information Technology - Photonics and Laser Technology
	Loyalist College	Electrical Engineering Technician - Industrial
	St. Lawrence College	Electrical Engineering Technician
2243 – Industrial Instrument Technicians and Mechanics	St. Lawrence College	Instrumentation and Control Engineering Technician
		Instrumentation and Control Engineering Technology

b) Skilled Trades

Automotive Region – Eastern Ontario: Skilled Trades		
NOC Code – Occupation	Institution	Program Name
7231 – Machinist and Machining and Tooling Inspectors	St. Lawrence College	General Machinist
7237 – Welders and Related Machine Operators	Algonquin College	Welding and Fabrication Techniques
	Loyalist College	Welding Techniques
		Welding and Fabrication Technician
	St. Lawrence College	Welding and Fabrication Technician
		Welding and Fabrication Techniques
7242 – Industrial Electricians	St. Lawrence College	Industrial Electrician
7311 – Construction Millwrights and Industrial Electricians	St. Lawrence College	Industrial Mechanic (Millwright)

Automotive Region: Montreal

a) Engineers/Technical/Managers

Automotive Region-Montreal: Engineers/Technical/Managers		
NOC Code – Occupation	Institution	Program Name
2132 – Mechanical Engineers	Concordia University	Mechanical Engineering
	École Polytechnique de Montréal	Génie Mécanique
	McGill University	Mechanical Engineering
2133 – Electrical Engineers	Concordia University	Electrical Engineering
		Electrical and Computing Engineering
	École Polytechnique de Montréal	Génie électrique
	McGill University	Electrical and Computer Engineering
2141 – Industrial & Manufacturing Engineers	Concordia University	Industrial Engineering
	École Polytechnique de Montréal	Génie industriel
2173 – Software Engineers & Designers	McGill University	Software Engineering
2232 – Mechanical Engineering Technologist & Technicians	Cégep du Vieux Montréal	Fabrication Mécanique
	Collège Gérald-Godin	Electronique Programmable et Robotique
	Dawson College	Mechanical Engineering Technology – Automated Manufacturing
		Mechanical Engineering Technology – Design
2233 – Industrial Engineering and Manufacturing Technologists and Technicians	College Ahuntsic	Dessin de conception mécanique
	Dawson College	Technologie du génie industriel
	College de Maisonneuve	Procédés industriels
2241 – Electrical and Electronics Engineering Technologists and Technicians	College Ahuntsic	Le technologie en électronique industrielle
	Dawson College	Electronics Engineering Technology
2243 – Industrial Instrument Technicians and Mechanics	Cégep André-Laurendeau	Industrial Electronics Technology

b) Skilled Trades

Automotive Region-Montreal: Skilled Trades		
NOC Code – Occupation	Institution	Program Name
7242 – Industrial Electricians	Cégep du Vieux Montréal	Électronique industrielle

Automotive Region: Vancouver

a) Engineers/Technical/Managers

Automotive Region-Vancouver: Engineers/Technical/Managers		
NOC Code – Occupation	Institution	Program Name
2132 – Mechanical Engineers	Simon Fraser University	Mechatronic Systems Engineering
2133 – Electrical Engineers	University of British Columbia	Electrical Engineering
		Electrical and Computer Engineering
2141 – Industrial & Manufacturing Engineers	University of British Columbia	Manufacturing Engineering
2173 – Software Engineers & Designers	Vancouver Community College	First-year University Transfer Computing Science and Software Systems Certificate
	Simon Fraser University	Software Systems
2232 – Mechanical Engineering Technologist & Technicians	Vancouver Community College	First-year University Transfer Engineering Certificate - SFU Transfer
	Simon Fraser University	Engineering Science
	Columbia College	Engineering
2233 – Industrial Engineering and Manufacturing Technologists and Technicians	North Island College	Industrial Automation Technician
		Instrumentation, Industrial Automation Technician
	Sprott Shaw College	Computer Aided Design Technology
2241 – Electrical and Electronics Engineering Technologists and Technicians	North Island College	Electrical Control, Industrial Automation Technician

b) Skilled Trades

Automotive Region-Vancouver: Skilled Trades		
NOC Code – Occupation	Institution	Program Name
7237 – Welders and Related Machine Operators	North Island College	Welder Apprenticeship - Harmonized
		Welder Foundation - Harmonized
		Welding Level B and A

Automotive Region: Winnipeg

a) Engineers/Technical/Managers

Automotive Region-Winnipeg: Engineers/Technical/Managers		
NOC Code – Occupation	Institution	Program Name
2174 – Computer Programmers and Interactive Media Developers	University of Winnipeg	Applied Computer Science
2232 – Mechanical Engineering Technologist & Technicians	Red River College	Mechanical Engineering Technology
		Power Engineering - 5th Class
		Power Engineering Technology
2233 – Industrial Engineering and Manufacturing Technologists and Technicians	Red River College	Manufacturing Computer Aided Drafting (CAD)
		Manufacturing Technician
2241 – Electrical and Electronics Engineering Technologists and Technicians	Red River College	Electrical Engineering Technology

b) Skilled Trades

Automotive Region-Winnipeg: Skilled Trades		
NOC Code – Occupation	Institution	Program Name
7237 – Welders and Related Machine Operators	Red River College	Welding

References

Statistics Canada (2016). Classification of Instructional Programs (CIP) Canada 2016. Retrieved from <https://www.statcan.gc.ca/eng/subjects/standard/cip/2016/introduction>

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