



## CAREER PROFILES

### Industrial Engineering and Manufacturing Technologists and Technicians:

**Industrial Engineering and Manufacturing Technologists and Technicians** may work independently or provide technical support and services in the development of production methods, facilities, and systems, and the planning, estimating, measuring, and scheduling of work.

### Wage/Salary Information:

\$34,000 is the median annual salary found in local job-postings.

\$30.92/hour is the median wage reported locally.

### Commonly Listed Skills in Job Postings:

- Oral and written communication
- Detail oriented
- Microsoft Office
- Problem solving
- Organizational skills
- Teamwork
- Troubleshooting
- AutoCAD
- Self-motivated
- Work independently
- Preventative maintenance
- Blueprint reading
- Time management
- Analytical
- Customer service oriented
- Adaptable
- Math

### Job Duties:

Industrial Engineering and Manufacturing Technologists develop and conduct production, inventory, and quality assurance programs in manufacturing or in other industries and design plant layouts and production facilities. Industrial Engineering and Manufacturing Technologists develop and carry out work study and related programs and develop and carry out industrial health, safety, and fire prevention plans and programs and conduct safety training programs. They also develop applications using CAD/CAM (computer-assisted drafting, computer-

assisted manufacturing) for the control of robots, computer numerical control (CNC) machines, and other manufacturing processes and operations.

Industrial Engineering and Manufacturing Technicians assist in the design of plant layouts and conduct work measurement or other studies. Industrial Engineering and Manufacturing Technicians collect and compile operational or experimental data and assist in the development of estimates, schedules, specifications, and reports. They collect and analyze data and samples in support of quality assurance and industrial health and safety programs. Industrial Engineering and Manufacturing Technicians also develop manufacturing and processing procedures and variables, set machine or equipment controls, oversee production, and inspect processes.

### Working Conditions:

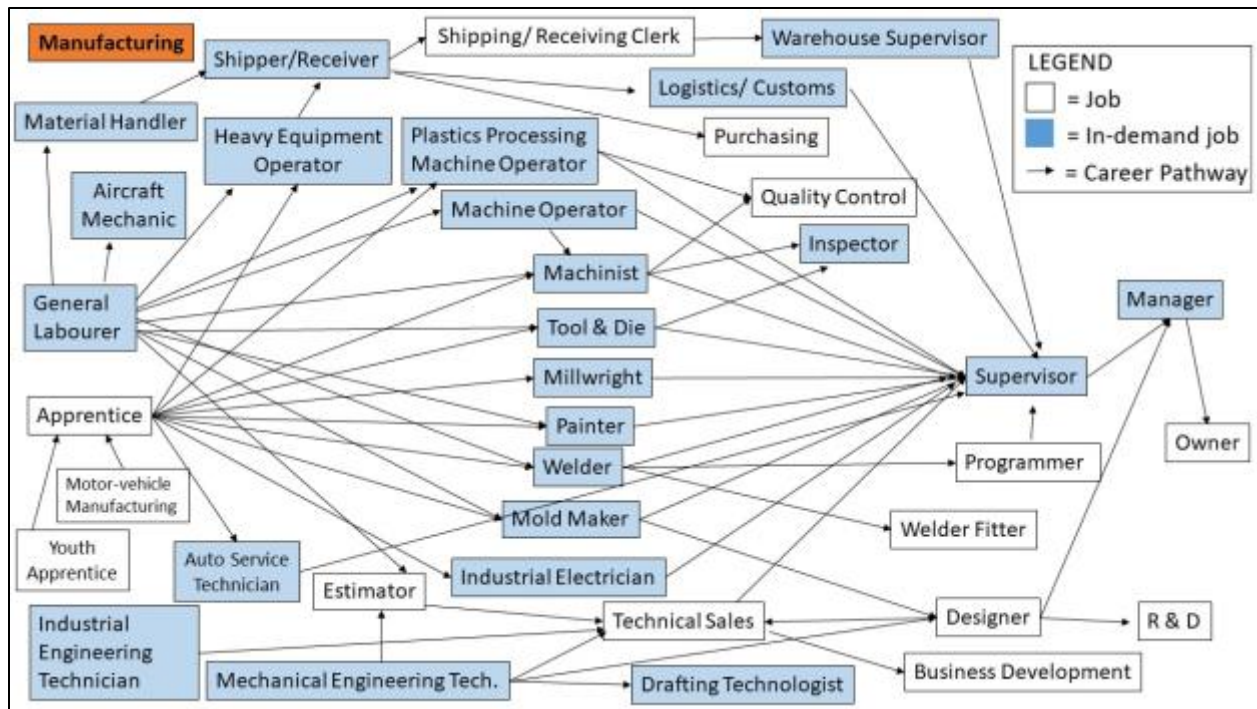
Work in this occupation is typically performed in a structured environment, such as an office.

### Career Pathways:

Careers in this field are related to the technologies necessary to design, develop, install, or maintain physical manufacturing systems. These may include engineering and related fields, architecture, mechanics and repairers, manufacturing technology, precision production, electronics, and construction trades and related industries.

Industrial Engineering and Manufacturing Technologists and Technicians are employed by manufacturing and insurance companies, government departments, and establishments in other industries. Below are potential career pathways for Industrial Engineering and Manufacturing Technologists and Technicians:

- CAD/CAM Programmer
- Industrial Engineering Technician
- Industrial Engineering Technologist
- Loss Prevention Technologist – Manufacturing
- Manufacturing Technician
- Manufacturing Technologist
- Planning Technician
- Plastics Manufacturing Technician
- Pulp and Paper Manufacturing Technologist
- Quality Assurance Technologist
- Scheduling Technician – Manufacturing
- Textile Technologist
- Time Study Analyst



### Education and Training Pathways:

If you're interested in becoming an Industrial Engineering Technologist or Technician, you can begin your apprenticeship or attend a local training/education program.

#### Apprenticeship Details:

##### Computer Numerical Control (CNC) Programmer

- Certification: Voluntary (not required to practice this profession in Ontario)
- Red Seal: No
- On-the-job training: Approximately 24 months
- In-class training: 240 hours

Individuals interested in pursuing an apprenticeship pathway, should follow these steps:

- 1) Get hired – by an employer/sponsor/union
- 2) Apply online to register as an apprentice at [www.ontario.ca/page/start-apprenticeship](http://www.ontario.ca/page/start-apprenticeship)
- 3) Sign a training agreement with your employer/sponsor and the Employment Ontario apprenticeship office.
- 4) Become a Member of the Ontario College of Trades Apprentices Class at [www.collegeoftrades.ca/membership](http://www.collegeoftrades.ca/membership)
- 5) Keep a record of the hours you work
- 6) Achieve the competencies listed in your training standard if required in your trade

- 7) Complete all of the training requirements in your trade and you will receive a Certificate of Apprenticeship (CoA).
- 8) Write the Exam for the Certificate of Qualification if required in your trade

If you are currently in high school and would like to begin an apprenticeship, visit [oyap.com](http://oyap.com) for more information about the Ontario Youth Apprenticeship Program.

Individuals unsure about whether to pursue an apprenticeship or not, can learn more by visiting [www.ontario.ca/page/prepare-apprenticeship](http://www.ontario.ca/page/prepare-apprenticeship).

#### St. Clair College:

### **Mechanical Engineering Technician – Industrial**

#### **Admission/Eligibility Requirements:**

- OSSD with the majority of courses at the College (C), University (U), University/College (M), or Open (O) level
- Grade 12 Match (C), or (U)
- Senior level physics: (C) or (U) is recommended

**Academic Credential:** Two Year - Ontario College Diploma

**Professional Certification:** Unknown

**Attendance:** In-person

**Full-time or Part-time:** Full-time

**Program Length:** 2-year diploma

**Program Cycle:** Unknown

#### **Program Cost:**

- Year 1: \$3,991.61
- Year 2: \$3,854.05
- Total: \$7,845.66 (2017/18)

**OSAP Eligible:** Yes

**Location:** 2000 Talbot Road West, Windsor, N9A 6S4

For more information on this program, please visit:

[http://www.stclaircollege.ca/programs/postsec/mech\\_ind/](http://www.stclaircollege.ca/programs/postsec/mech_ind/)

#### University of Windsor:

## Industrial Engineering

### Admission Requirements:

- Minimum Admissions Average: 74%
- Mean Admissions Average: 86%
- Admission Requirements: ENG4U, MHF4U, SCH4U, and SPH4U required. MCV4U strongly recommended. 74% second Science/Math average, excluding SB14U.

**Academic Credential:** Bachelor of Applied Science in Industrial Engineering

**Professional Certification:** Opportunity for Honours Certificate in Industrial Engineering

**Attendance:** In-person

**Full-time or Part-time:** Full-time

**Program Length:** 4 years

**Program Cycle:** Intake for Fall, Winter, Summer

**Program Cost:** \*\$11714.28

**OSAP Eligible:** Yes

**Location:** 401 Sunset Avenue, Windsor, N9B 3P4

For more information on this program, please visit:

<http://www.uwindsor.ca/engineering/mame/409/industrial-engineering>

## Engineering Technology

### Admission Requirements:

- A three-year Canadian college technology diploma holder (or an equivalent overseas institution)  
or  
An engineering degree from an accredited Canadian university (and an equivalent overseas institution)  
or  
A four-year university degree in a scientific or technical subject from a Canadian University (or an equivalent overseas institution)
- (a 70% average on one of these requirements is usually expected)

**Academic Credential:** Degree - Bachelor of Engineering Technology

**Professional Certification:** 1 year upgrade program for college students

**Attendance:** In-person

**Full-time or Part-time:** Full-time

**Program Length:** 1 year

**Program Cycle:** Intake for Fall, Winter, Summer

**Program Cost:** Unknown

**OSAP Eligible:** Yes

**Location:** 401 Sunset Avenue, Windsor, N9B 3P4

For more information on this program, please visit:

<http://www.uwindsor.ca/engineering/483/bachelor-engineering-technology>

## **Industrial and Management Engineering**

**Admission Requirements:** A candidate shall hold the degree of:

- Bachelor of Applied Science (B.A.Sc);
- a four-year B.Sc (or BCS) degree in Computer Science or in Physics, or related Science fields,
- Bachelor of Commerce (B.Comm.), or;
- BHK Honours

**Academic Credential:** Honours Certificate in Industrial and Management Engineering in Industrial Engineering

**Professional Certification:** Certificate in Industrial and Management Engineering

**Attendance:** In-person

**Full-time or Part-time:** Full-time

**Program Length:** 2 semesters

**Program Cycle:** Intake for Fall, Winter, Summer

**Program Cost:** \*\$5857.14/semester based on 4 courses

**OSAP Eligible:** Yes

**Location:** 401 Sunset Avenue, Windsor, N9B 3P4

For more information on this program, please visit:

<http://www.uwindsor.ca/engineering/mame/432/honours-certificate-industrial-and-management-engineering>

[Windsor Career College:](#)

**Engineering Design & Drafting Technologist**

**Admission/Eligibility Requirements:** Unknown

**Academic Credential:** Diploma

**Professional Certification:** Unknown

**Attendance:** In-Person

**Full-time or Part-time:** Full-time

**Program Length:** 28 weeks

**Program Cycle:** Unknown

**Program Cost:** Unknown

**OSAP Eligible:** Unknown

**Location:** 235 Eugenie Street West, Windsor, N8X 2X7

For more information on this program, please visit:

<http://www.windsorcareercollege.ca/engineering.html>

***Disclaimer:** The educational institution reserves the right to change information without notice, and may result in discrepancies between their information and the information presented above. If any errors are found, please report them to [info@workforcewindsorsex.com](mailto:info@workforcewindsorsex.com).*