

CNC Machine Tool Operator and Programmer

PROGRAM OUTLINE

PROGRAM DETAILS

The CNC Diploma Program at **Institute of Machine Tool Technology (IMTT)** provides students with the **technical knowledge** and **practical experience** needed to succeed in the field of **modern machining**. This **career-focused program** covers essential topics such as **precision measurement tools**, **data sheet analysis**, and **manufacturing optimization**.

Through **hands-on training** in a **safe and controlled environment**, students develop the skills to **create** and **troubleshoot CNC programs**. Whether entering the workforce or upgrading your current skills, this program equips you with the tools **employers look for** in today's **competitive manufacturing industry**.

ADMISSION REQUIREMENTS

- Grade 12, Diploma or equivalent GED
- Minimum 18 years or older
- English Language Proficiency

Note: For the most accurate and up-to-date admission requirements, we recommend contacting our institute directly or visiting our website.

EMPLOYMENT PROFILE

Professionals in CNC Machining **play an essential role in the manufacturing process across a wide range of industries**. Their **responsibilities, shaped by their training and experience, combine technical, operational, and precision-based tasks aimed at producing high-quality components**. Key duties **involve programming and interpreting blueprints to plan machining operations**, setting up and operating CNC machines for tasks such as **milling, drilling, and turning, and ensuring accurate results using precision measuring instruments like micrometres and calipers**. They also **perform routine equipment maintenance and may enter CNC programming codes to define the speed, feed, and cutting paths required for efficient machine operation**.

CAREER OPPORTUNITIES

Graduates are qualified for a range of entry-level to mid-level positions in precision manufacturing and CNC machining, such as:

- CNC Mill and Lathe Operator
- CNC Setup Technician (Mill & Lathe)
- Automotive Machinist
- Aerospace / Aviation Machinist
- Machining Tool Operator
- CNC Programmer

Annual Salary	\$41,000 - \$75,000
Hourly Rate	\$20/hr - \$36/hr

**Source: Job Bank Canada (NOC 72100)*

PROGRAM DURATION

Total Program Hours	1250 Hours
Total Program Length	42 Weeks

PROGRAM FOCUS

The **CNC Diploma Program** at the **Institute of Machine Tool Technology (IMTT)** is designed to equip students with the comprehensive skills and practical knowledge required to succeed in today's competitive manufacturing environment.

Here are the program's core focus areas:

- Safety Training (WHMIS)
- Blueprint Reading
- Precision Turning
- Precision Milling
- Mastercam Design & Toolpath
- SolidWorks

Gain valuable **hands-on training** experience and industry-ready skills through the CNC Machine Tool Operator and Programmer Diploma Program at IMTT. This program prepares you for success in the manufacturing sector, equipping you with the knowledge and expertise to program, set up, and operate CNC Mills and Lathes across a wide range of industries.

PROGRAM SUMMARY

This table will display a summary of total Instructional hours and percentage weight for every type of learning entered in the List of Subjects. The Ministry, Career College, and any subject or education assessors may refer to this section for a general understanding of the program's components.

Type of Learning	Total Instruction Hours	% Weight
Theory	420	33.6
Computer Lab	330	26.4
Machine Labs	500	40.0
Total Program Hours	1250	100

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List of subjects with the time allocation for each

#	Subject	Instruction Hours
Delivery Format – Hybrid		
1	WHMIS, CNC workshop safety	30.00
2	Blueprint Reading, GD&T, SPC, and CNC related math	60.00
3	Cutting, Tool Wear and Technical Data	30.00
4	Coordinate Systems	30.00
5	Cutting Tool Functions and Program Configuration	30.00
6	CNC Program Functions, Setup & Metrology	30.00
7	Precision Turning	120.00
8	Precision Milling	120.00
9	Mastercam Design and Tool Path (Mill, Lathe and Multi-Axis)	240.00
10	SolidWorks	90.00
11	Machine Labs - Mill	365.00
12	Machine Labs - Lathe	105.00
	Total Hours	1250.00

**The course content may be changed as per industry standards*

Please Note:

- a) Course order may differ from the sequence shown in this outline.
- b) Program fees include all textbooks, supplies, and required certifications.
- c) Some program components may be delivered online, through computer-assisted learning, or a blended format with instructor support.
- d) The College may update program content, schedules, materials, instructors, or technology as needed to support ongoing improvement. Changes take effect upon implementation.

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