

CNC MILL & LATHE SETUP PROGRAM OUTLINE

PROGRAM DETAILS

The **CNC Mill Setup Program & CNC Lathe Setup Certificates** at the **Institute of Machine Tool Technology (iMTT)** are Vocational programs designed to equip students with the **practical, job-ready skills** to safely and accurately set up CNC milling machines and lathes. This **hands-on training** emphasizes machine **startup, fixture alignment, tool offsets, wear compensation, and troubleshooting** — preparing students for essential setup roles in today's manufacturing industry.

Whether **entering the workforce** or **upgrading existing skills**, graduates will gain the setup expertise that employers in **aerospace, automotive, medical, and general manufacturing industries** demand.

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

CNC Setup Technicians play a vital role in modern machining across industries such as **aerospace, automotive, medical, and general manufacturing**. Their work involves **preparing and aligning fixtures, vices, and stock materials**, establishing work coordinate systems and reference points, and **setting tool length and wear offsets to ensure precision**. They are also responsible for running warm-up and verification cycles, as well as **troubleshooting alarms, errors, and machining accuracy issues**. By ensuring machines are correctly prepared for production, CNC Setup Technicians enable operators and programmers to maintain efficient operations and **achieve high-quality, precision parts**.

CAREER OPPORTUNITIES

Graduates are qualified for entry-level to mid-level setup positions across multiple industries. Potential job titles include:

- **CNC Mill Setup Technician**
- **CNC Lathe Setup Technician**
- **Machining Tool Operator**
- **Aerospace / Automotive**
- **Production Machinist**
- **Junior CNC Technician**

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

**According to jobbank.gc.ca (NOC code 72100)*

PROGRAM DURATION

CNC Mill Setup	39 Hours
CNC Lathe Setup	39 Hours

PROGRAM FOCUS

The **CNC Mill & Lathe Setup Program** equips students with essential setup fundamentals through practical, hands-on learning. Training covers **machine startup and warm-up procedures, work holding and fixture alignment**, stock preparation and reference setting, as well as tool length and **wear offset management**. Students also develop skills in verification, **troubleshooting**, and setup documentation, ensuring they are fully prepared to **support production efficiently and accurately**.

Here are the program's core focus areas:

- CNC workshop safety and WHMIS training
- Machine startup, cold start, and warm-up cycles
- Work holding, fixture alignment, and hydraulic chuck setup
- Stock preparation, referencing, and establishing work coordinate systems (WCS)
- Tool length, tool nose radius, and wear offset management
- Dry runs, verification procedures, and troubleshooting of common errors
- Setup documentation, inspection tools, and process logs
- Final setup projects demonstrating full mill and lathe preparation

PROGRAM SUMMARY

This table will display a summary of total Instructional hours and delivery format. 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	Mode of Delivery
CNC Mill Setup	39 Hours	In-Person Workshop
CNC Lathe Setup	39 Hours	In-Person Workshop

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List of subjects for each level and delivery format:

CNC Mill Setup	
Delivery Format: In-Person Workshop	
1	Introduction to CNC Milling
2	Machine Startup Procedures
3	Work Holding and Fixture Setup
4	Tool Setup and Offsets
5	Verification and Troubleshooting
6	Final Project & Assessment
CNC Lathe Setup	
Delivery Format: In-Person Workshop	
1	Introduction to CNC Turning
2	Machine Initialization
3	Work Holding and Stock Preparation
4	Work Coordinate System Setup
5	Tool Setup and Offsets
6	Verification and Troubleshooting
7	Final Project & Assessment

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**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.