Seneca POLYTECHNIC

2024-2025

MECHANICAL TECHNIQUES (TOOL & DIE/MOULD MAKING) (MATT)

Important: This program is no longer accepting new applications. Explore Related Programs (https://www.senecapolytechnic.ca/programs/fulltime/MATT.html#related-programs).

About the Program

This eight-month certificate program will introduce you to modern manufacturing techniques including programming and Computer Assisted Manufacturing (CAM). You will study both theory and practical aspects of modern metal machining and cutting while focusing on programming, advanced manufacturing techniques and interpreting engineering drawings.

Computer Requirements

- operating system: Windows 10, 64 bit
- processor: 3.3 GHz (or faster)
- memory: 16 GB (or larger)
- solid-state drive: 128 GB (or larger)
- second display screen (recommended)

Credential Awarded

Ontario College Certificate

Duration

2 Semesters (8 Months)

Starts

September

Program and Course Delivery

This program is offered in person. Students are required to come on campus to attend classes.

Skills

Throughout this program you will develop the following skills:

- Use current and emerging technologies to support the implementation of mechanical and manufacturing projects
- Test and solve standard mechanical problems
- Perform technical measurements using equipment
- Assist in manufacturing, assembling, maintaining mechanical components
- Apply quality control procedures to meet industry standards
- Use current technologies to support the creation of mechanical and manufacturing projects

Work Experience

Apprenticeship

Once you complete this program, you may begin an apprenticeship with an employer as a tool and die maker, mould maker and general machinist.

Your Career

Graduates of the program can explore the following career options:

- Mechanical engineering technologist or technician
- Machine maintenance specialist
- Tool and die maker
- Mould maker
- General machinist
- Industrial maintenance technician
- Tool designer
- Technical sales
- CNC programmer
- CNC setup operator

Professional Certification

Graduates are eligible to write the exemption test for two of the common curriculum trades: tool and die maker, mould maker and general machinist, as specified by the Ministry of Training, Colleges and Universities.

Program of Study

Course Code	Course Name	Weekly Hours
Semester 1		
BPR101	Blueprint Reading	2
CNC101	Computer Numerical Control	2
COM101	Communicating Across Contexts	3
or COM111	Communicating Across Contexts (Enriched)	
MAT111	Mathematics	3
SHP101	Shop	10
THY101	Machining Theory	3
Semester 2		
CAM201	Computer Assisted Machining	2
MTH201	Technical Mathematics I	2
SHP201	Shop	10
THY201	Machining Theory	3
TLD201	Tool Design	2
plus: General Education Course (1)		3

Program Learning Outcomes

This Seneca program has been validated by the Credential Validation Service as an Ontario College Credential as required by the Ministry of Colleges and Universities.

As a graduate, you will be prepared to reliably demonstrate the ability to:

- Complete all work in compliance with current legislation, standards, regulations and guidelines.
- Contribute to the application of quality control and quality assurance procedures to meet organizational standards and requirements.

- Comply with current health and safety legislation, as well as organizational practices and procedures.
- Support sustainability best practices in workplaces.
- Use current and emerging technologies to support the implementation of mechanical and manufacturing projects.
- Troubleshoot and solve standard mechanical problems by applying mathematics and fundamentals of mechanics.
- Contribute to the interpretation and preparation of mechanical drawings and other related technical documents.
- Perform routine technical measurements accurately using appropriate instruments and equipment.
- Assist in manufacturing, assembling, maintaining and repairing mechanical components according to required specifications.
- Select, use and maintain machinery, tools and equipment for the installation, manufacturing and repair of basic mechanical components.

Admission Requirements

- Ontario Secondary School Diploma (OSSD), or equivalent, or a mature applicant (https://www.senecapolytechnic.ca/registrar/canadian-applicants/admission-requirements/mature-applicants.html)
- English: Grade 12 C or U, or equivalent course
- Mathematics: Grade 12 C or U, or Grade 11 Functions (MCR3U), or equivalent course

Canadian citizens and permanent residents may satisfy the English and/or mathematics requirements for this program through successful Seneca pre-admission testing. (https://www.senecapolytechnic.ca/registrar/canadian-applicants/admission-requirements/mature-applicants.html)

Recommended upgrading for applicants who do not meet academic subject requirements (https://www.senecapolytechnic.ca/registrar/canadian-applicants/admission-requirements/upgrading-options.html).

International Student Information

International admissions requirements vary by program and in addition to English requirements (https://www.senecapolytechnic.ca/international/apply/how-to-apply/admission-requirements/english-requirements.html), programs may require credits in mathematics, biology, and chemistry at a level equivalent to Ontario's curriculum, or a postsecondary degree or diploma, equivalent to an Ontario university or college. Program-specific pre-requisite courses and credentials are listed with the admission requirements on each program page. To review the academic requirements please visit: Academic Requirements - Seneca, Toronto, Canada (senecapolytechnic.ca) (https://www.senecapolytechnic.ca/international/apply/how-to-apply/admission-requirements/academic-requirements.html).

Pathways

As a leader in academic pathways, we offer a range of options that will allow you to take your credential further in another Seneca program or a program at a partner institution.

To learn more about your eligibility, visit the Academic Pathways (https://www.senecapolytechnic.ca/pathways.html) web page.

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