

# MECHANICAL ENGINEERING TECHNOLOGY

**Program:** METY

**Credential:** Ontario College Advanced Diploma, Co-op

**Delivery:** Full-time

**Work Integrated Learning:** 3 Co-op Work Terms

**Length:** 6 Semesters, plus 3 work terms

**Duration:** 3 Years

**Effective:** Fall 2025

**Location:** Barrie

## Description

Mechanical technology is a cornerstone of sophisticated and advanced economies. You learn the skills to apply scientific and engineering principles to solve mechanical engineering related problems. You undertake the design and fabrication of mechanical apparatus and systems, including automation and control systems, manufacturing processes, additive manufacturing technologies and material handling. Conventional and computerized numerical control (CNC) machining, interpreting engineering drawings, including metrology and geometric dimensioning and tolerancing (GD&T) are a part of your technologist skill set preparing you for the needs of industry today.

## Career Opportunities

Graduates may find a range of occupations in many industrial sectors including automotive, aerospace, advanced automation, natural resources, mining and processing. Graduates may participate in an engineer-technologist-technician team in mechanical consulting, manufacturing or mechanical design and maintenance. Careers are possible in machine and fixture building, manufacturing and production, quality assurance, testing, manufacturing management, technical sales and service. Specific industries may include automotive parts and assembly, metal fabricating and machining, and machine building.

## Program Learning Outcomes

The graduate has reliably demonstrated the ability to:

1. monitor compliance with current legislation, standards, regulations and guidelines;
2. plan, co-ordinate, implement and evaluate quality control and quality assurance procedures to meet organizational standards and requirements;
3. monitor and encourage compliance with current health and safety legislation, as well as organizational practices and procedures;
4. develop and apply sustainability best practices in workplaces;
5. use current and emerging technologies to implement mechanical engineering projects;
6. analyze and solve complex mechanical problems by applying mathematics and fundamentals of mechanical engineering;
7. prepare, analyze, evaluate and modify mechanical engineering drawings and other related technical documents;
8. design and analyze mechanical components, processes and systems by applying fundamentals of mechanical engineering;

9. design, manufacture and maintain mechanical components according to required specifications;
10. establish and verify the specifications of materials, processes and operations for the design and production of mechanical components;
11. plan, implement and evaluate projects by applying project management principles;
12. develop strategies for ongoing personal and professional development to enhance work performance;
13. apply business principles to design and engineering practices;
14. apply basic entrepreneurial strategies to identify and respond to new opportunities.

## Practical Experience

All co-operative education programs at Georgian contain mandatory work term experiences aligned with program learning outcomes. Co-op work terms are designed to integrate academic learning with work experience, supporting the development of industry specific competencies and employability skills.

Georgian College holds membership with, and endeavours to follow, the co-operative education guidelines set out by the Co-operative Education and Work Integrated Learning Canada (CEWIL) and Experiential and Work-Integrated Ontario (EWO) as supported by the Ministry of Colleges and Universities.

Co-op is facilitated as a supported, competitive job search process. Students are required to complete a Co-op and Career Preparation course scheduled prior to their first co-op work term. Students engage in an active co-op job search that includes applying to positions posted by Co-op Consultants, and personal networking. Co-op work terms are scheduled according to a formal sequence that alternates academic and co-op semesters as shown in the program progression below.

Programs may have additional requirements such as a valid driver's license, strong communication skills, industry specific certifications, and ability to travel. Under exceptional circumstances, a student may be unable to complete the program progression as shown below. Please refer to Georgian College Academic Regulations for details.

International co-op work terms are supported and encouraged, when aligned with program requirements.

Further information on co-op services can be found at [www.GeorgianCollege.ca/co-op](http://www.GeorgianCollege.ca/co-op) (<https://www.georgiancollege.ca/co-op/>)

## Program Progression

The following reflects the planned progression for full-time offerings of the program.

### Fall Intake

- **Sem 1:** Fall 2025
- **Sem 2:** Winter 2026
- **Work Term 1:** Summer 2026
- **Sem 3:** Fall 2026
- **Sem 4:** Winter 2027
- **Sem 5:** Summer 2027
- **Work Term 2:** Fall 2027

- **Work Term 3:** Winter 2028
- **Sem 6:** Summer 2028

## Admission Requirements

- Ontario Secondary School Diploma (OSSD) or equivalent, mature student status
- Grade 12 English (C or U)
- any Grade 12 Mathematics (C or U)

Mature students, non-secondary school applicants (19 years or older), and home school applicants may also be considered for admission. Eligibility may be met by applicants who have taken equivalent courses, upgrading, completed their GED, and equivalency testing. For complete details refer to: [www.georgiancollege.ca/admissions/academic-regulations/](http://www.georgiancollege.ca/admissions/academic-regulations/) (<https://www.georgiancollege.ca/admissions/academic-regulations/>)

Applicants who have taken courses from a recognized and accredited post-secondary institution and/or have relevant life/learning experience may also be considered for admission; refer to the Credit for Prior Learning website for details: [www.georgiancollege.ca/admissions/credit-transfer/](http://www.georgiancollege.ca/admissions/credit-transfer/) (<https://www.georgiancollege.ca/admissions/credit-transfer/>)

## Additional Information

Students should hold, or obtain, a minimum Class G2 Ontario driver's licence to ensure the greatest opportunity for co-op work terms.

## Graduation Requirements

- 37 Program Courses
- 2 Communications Courses
- 3 General Education Courses
- 3 Co-op Work Terms

## Graduation Eligibility

To graduate from this program, the passing weighted average for promotion through each semester, from year to year, and to graduate is 60%. Additionally, a student must attain a minimum of 50% or a letter grade of P (Pass) or S (Satisfactory) in each course in each semester unless otherwise stated on the course outline.

## Program Tracking

The following reflects the planned course sequence for full-time offerings of the Fall intake of the program. Where more than one intake is offered contact the program co-ordinator for the program tracking.

Semester 1	Hours
Program Courses	
COMP 1084 Computer Aided Design 1 For Mechanical Engineering Technology	56
MATH 1018 Introduction to Technical Mathematics	42
MENG 1019 Manufacturing Processes	42
MENG 1023 Metrology	56
METR 1000 Electrical Components	56
Communications Course	
Select 1 course from the communications list during registration.	42
General Education Course	
Select 1 course from the general education list during registration.	42
<b>Hours</b>	<b>336</b>

Semester 2		
Program Courses		
COMP 1025	Computer Aided Design 2 for Mechanical Engineering Technology	42
MATH 1019	Technical Mathematics	42
MCHN 1002	Machine Shop 1	56
MENG 1008	Engineering Materials	42
MENG 1024	Hydraulics, Pneumatics, Instrumentation and Controls	56
METR 1001	Introduction to Mechatronics Systems and Reliability	56
PHYS 1007	Engineering Physics	42
<b>Hours</b>		<b>336</b>

Semester 3		
Program Courses		
COMP 2120	Computer Aided Design 3 for Mechanical Engineering Technology	42
MATH 2008	Calculus and Engineering Mathematics	56
MCHN 2002	Machine Shop 2	56
MENG 1022	Statics	56
MENG 2005	Fluid Mechanics	42
ROBT 2000	Introduction to Robotics	42
Communications Course		
Select 1 course from the communications list during registration.		42
<b>Hours</b>		<b>336</b>

Semester 4		
Program Courses		
COMP 2043	Computers and Programmable Controllers	42
ENGN 1003	Sustainable Engineering	42
MENG 2007	Strength of Materials	42
MENG 2021	Thermodynamics	42
MENG 2022	Heat Transfer	42
MENG 3011	Dynamics	42
MGMT 2002	Project Management	42
<b>Hours</b>		<b>294</b>

Semester 5		
Program Courses		
COMP 2121	Computer Aided Engineering (CAE)	42
COMP 3038	Computer Aided Manufacturing	56
MCHN 2001	Engineering Tooling	42
MENG 2023	Additive Manufacturing Project	42
MENG 3007	Design of Energy Systems	42
MENG 3010	Machine Design	42
MENG 3026	Statistics, Quality and Reliability for Engineering Technology	56
<b>Hours</b>		<b>322</b>

Semester 6		
Program Courses		
BUSI 3008	Economics, Ethics and Entrepreneurship	42
MENG 3020	Advanced Materials	42
MENG 3023	Vibrations	42
MENG 3027	Factory Simulation and Process Design	56
ENGN 3000	Engineering Project	42
General Education Course		
Select 2 courses from the available list during registration		84
<b>Hours</b>		<b>308</b>
<b>Total Hours</b>		<b>1932</b>

Co-op Work Terms		Hours
COOP 1043	Mechanical Work Term 1 (Fall Intake occurs after Semester 2, Winter Intake occurs after Semester 5)	560
COOP 2035	Mechanical Work Term 2 (Fall Intake occurs after Semester 5, Winter Intake occurs after Work Term 1)	560

COOP 3013	Mechanical Work Term 3 (Fall Intake occurs after Work Term 2, Winter Intake occurs after Semester 6)	560
<b>Hours</b>		<b>1680</b>
<b>Total Hours</b>		<b>1680</b>

## Graduation Window

Students unable to adhere to the program duration of three years (as stated above) may take a maximum of six years to complete their credential. After this time, students must be re-admitted into the program, and follow the curriculum in place at the time of re-admission.

**Disclaimer:** *The information in this document is correct at the time of publication. Academic content of programs and courses is revised on an ongoing basis to ensure relevance to changing educational objectives and employment market needs.*

*Program outlines may be subject to change in response to emerging situations, in order to facilitate student achievement of the learning outcomes required for graduation. Components such as courses, progression, coop work terms, placements, internships and other requirements may be delivered differently than published.*