ENVIRONMENTAL TECHNOLOGY

Program: ENVR
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

In this program, you gain the advanced skills required to enter the workforce as an environmental practitioner with the ability to use environmental sampling, monitoring and testing equipment, as well as information technology tools. You gain experience in preparing and interpreting data using various analytical methods. You become familiar with the principles of ecosystem-based management for sustainability and develop the ability to manage environmental projects from planning through to implementation and maintenance. Through applied knowledge of health, safety and environmental requirements, you are able to contribute to risk assessment and environmental systems management. The experience and knowledge you gain focuses on the need for designing and implementing systems to prevent, control and clean-up environmental contaminants. You are provided an opportunity to apply your skills through partnerships in the community, and you gain hands-on experience through field work opportunities and prepare for entry into a range of positions as you undertake industry-related certifications.

Career Opportunities

The field of environmental technology is diverse and rapidly evolving to meet increasingly stringent regulatory requirements. Given the diversity in program skills and knowledge, a number of career options can be pursued upon graduation. Traditionally, graduates have found employment in the environmental field working for small and large corporations. Potential employers include environmental consulting firms, government agencies (municipal, provincial, federal), and environmental services departments in a variety of organizations.

Program Learning Outcomes

The graduate has reliably demonstrated the ability to:

1. collect representative environmental samples, perform routine and specialized tests, and interpret results while adhering to standard methods;
2. monitor activities that are potentially harmful to the environment to develop and implement plans for their resolution;
3. collect and analyze biophysical information, including habitat assessments, to suggest restoration opportunities;
4. plan and engage in sustainable activities that promote stewardship of the environment by adhering to Environmental Best Management Practices;
5. comply with applicable standards of professional conduct and principles of ethics in all aspects of one's work;
6. adhere to occupational/environmental health and safety standards and applicable legislative requirements in all aspects of one's work;
7. select established processes and protocols of environmental management systems for operational efficiency;
8. participate in project planning, complete project tasks, and provide ongoing support for project management to ensure successful completion of project;
9. document, maintain, and present technical information in various formats according to the purpose and audience;
10. develop and implement strategies for ongoing personal and professional development to enhance performance as an environmental technologist.

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 (https://www.georgiancollege.ca/co-op/)

External Recognition

This program is accredited by Co-operative Education and Work-Integrated Learning Canada (CEWIL Canada).

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
- **Work Term 2:** Summer 2027
- **Work Term 3:** Fall 2027
- **Sem 5:** Winter 2028
- **Sem 6:** Summer 2028

Articulation

A number of articulation agreements have been negotiated with universities and other institutions across Canada, North America and internationally. These agreements are assessed, revised and updated on a regular basis. Please contact the program co-ordinator for specific details if you are interested in pursuing such an option. Additional information can be found on our website at https://www.georgiancollege.ca/admissions/credit-transfer/ (http://www.georgiancollege.ca/admissions/credit-transfer/)

Admission Requirements

- Ontario Secondary School Diploma (OSSD) or equivalent, or mature student status
- Grade 12 English (C or U)
- 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/ (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/ (https://www.georgiancollege.ca/admissions/credit-transfer/)

Additional Information

Grade 11 or 12 science course (for instance, Biology, Chemistry, or Physics) strongly recommended to support this science-based program.

This program prepares students for various certifications/designations required for environmental careers including:

- Water and wastewater treatment operator certification– students complete Ministry of Environment, Conservation and Parks (MOECP) Entry-Level Drinking Water Operator curriculum and exam (in course exam). Students are also provided the opportunity to write the MOECP Operator in Training Exam (additional fees apply - https://owwco.ca/getting-your-certificate-or-licence-for-the-first-time/).
- Certified Engineering Technologist (CET) designation - In addition to meeting the educational requirements, the program prepares students to write the professional practice exam through the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) (https://www.oacett.org/how-to-certify/certified-membership/exam/), as well as assists students in preparing a technical report to submit to OACETT upon successful graduation.

Having an automotive driver's licence (https://www.ontario.ca/page/drivers-licence/) prior to applying to co-op work term positions, which usually occur during semester two, is strongly recommended. Many employers require a full G licence to drive a company vehicle from worksite to worksite and will prefer applicants who have it.

A laptop is strongly recommended (Windows compatible recommended) in order to support a wider job search and facilitate more co-op employment opportunities. Online access and/or student trial license opportunities are available for most required software.

Appropriate clothing for fieldwork is required. This includes green patch safety boots/shoes.

Graduation Requirements

34 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 1059	Computer Technology for Environmental Applications	42
ENVR 1005	Workplace Safety and Employment Readiness	42
ENVR 1006	Earth Science	42
ENVR 1009	Foundations of Environmental Science	42
MATH 1035	Applied Environmental Mathematics	42
PHYS 1004	Physical Systems in the Environment	42
Communications Course		
Select 1 course from the communications list during registration.		42
	Hours	**294**
Semester 2		
Program Courses		
BIOL 1008	Biological Systems	42
CHEM 1016	Introduction to Applied Environmental Chemistry	56
ENVR 1004	Geospatial Technology	56
ENVR 1007	Water Treatment	42
STAT 2006	Applied Statistics for Environmental Applications	42
Communications Course		
Select 1 course from the communications list during registration.		42
	Hours	**280**
Semester 3		
Program Courses		
CHEM 2002	Applied Organic Chemistry	42
ENVR 2012	Ecosystems and Environmental Sampling	42
ENVR 2013	Limnology and Watershed Management	42
ENVR 2014	Environmental Management Systems and Audits	28
ENVR 2017	Soil Properties	42

SURV 2002	Environmental Surveying	42
General Education Course		42
Select 1 course from the general education list during registration.		
	Hours	**280**
Semester 4		
Program Courses		
ENVR 2004	Waste Management Strategies	42
ENVR 2018	Environmental Assessment and Contaminants in the Environment	56
ENVR 2019	Environmental CAD	42
ENVR 2020	Wastewater Treatment	42
LAWS 2010	Environmental Law and Policy	42
General Education Courses		84
Select 2 course from the general education list during registration.		
	Hours	**308**
Semester 5		
Program Courses		
ENVR 3000	Applied Hydrology and Hydrogeology	42
ENVR 3018	Advanced GIS	56
ENVR 3020	Project Management and Technical Writing	42
ENVR 3021	Stormwater Management and Low Impact Development	28
ENVR 3022	Environmental Analytical Methods	70
MENG 3013	Environmental Fluid Mechanics	42
	Hours	**280**
Semester 6		
Program Courses		
ENVR 3002	Toxicology and Contaminants in Organisms	28
ENVR 3009	Spill Response and Emergency Preparedness	42
ENVR 3015	Stakeholder Engagement and Management	42
ENVR 3016	Atmospheric Science	42
ENVR 3023	Advanced Environmental Sampling	56
ENVR 3024	Applied Research Project	70
	Hours	**280**
	Total Hours	**1722**

Co-op Work Terms		**Hours**
COOP 1023	Environmental Work Term 1 (occurs after Semester 2)	560
COOP 2018	Environmental Work Term 2 (occurs after Semester 4)	560
COOP 3010	Environmental Work Term 3 (occurs after Work Term 2)	560
	Hours	**1680**
	Total Hours	**1680**

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.