Seneca POLYTECHNIC

2024-2025

ENVIRONMENTAL TECHNICIAN (ETM)

About the Program

Are you passionate about the land, air and water? If you are looking to start a career within the diverse and everchanging environmental industry, this two-year diploma program will teach you about the natural and built environment and how to tackle complex environmental problems. You will develop practical skills around monitoring, sampling, canoeing, species and plant identification, as well as mapping#for a variety of environmental projects. As you move through the program, you will build your knowledge of ecosystem management, soil and groundwater quality, health and safety, indoor air, erosion mitigation, legislative requirements and geospatial techniques.

Each semester includes a substantial field component on the vast natural landscape of our King Campus (https://www.senecapolytechnic.ca/campuses/kinglocation.html) located on the Oak Ridges Moraine, the Toronto and Region Conservation Authority's Lake St. George Field Centre in Richmond Hill, and Newnham Campus (https://www.senecapolytechnic.ca/campuses/newnhamlocation.html).

This two-year diploma program prepares you for a range of entry-level positions in the environmental field. The program also offers the Ministry of Environment Conservation and Parks (MECP) approved Entry-Level Course (ELC) curriculum and exam for Drinking Water Operators in the water and wastewater industry.

Important Information

It is strongly recommended that you have a validdriver's license (https://www.ontario.ca/page/drivers-licence/), as most employers require a G class licence (https://www.ontario.ca/page/get-g-drivers-licence-new-drivers/) for co-op positions.

Laptop Requirement

It is strongly recommended that you have a laptop before the first day of this program. It should include the following technical specifications:

- Windows 10 Operating System
- Intel i7 or equivalent processor
- 16 GB of RAM (32 GB of RAM is recommended)
- 256 GB Solid State Hard Drive (SSD) (512 GB SSD is recommended)
- High-end graphics video card (consider a dedicated video card with at least 2 GB of video memory)
- 13 inch or larger screen
- Three USB 3.0 ports

Credential Awarded

Ontario College Diploma

Duration

4 Semesters (2 Years)

Starts

September

Program and Course Delivery

This program is offered in Seneca's hybrid delivery format with some courses available in Seneca's flexible delivery format. Some coursework is online and some must be completed in person. Students will need to come on campus to complete in-person learning requirements. For courses offered in the flexible delivery format, professors use innovative learning spaces and technology to teach students in a classroom or lab and broadcast in real time to students attending remotely. In flexible courses, students have the choice of coming on campus or learning online.

Skills

Throughout this program you will develop the following skill:

- Collect representative environmental samples and perform routine tests
- Use scientific concepts and models when contributing to the prevention, control and elimination of environmental hazards and remediation of contaminated sites
- Analyze water, soil and air samples address related-environmental problems
- Follow standard procedures for conducting environmental sampling projects
- Promote and maintain sustainable practices
- Perform work responsibilities adhering to standards of professional conduct
- Complete assigned tasks in adherence to occupational health and safety standards
- Follow established protocols in support of environmental management systems
- Provide ongoing support for project management
- Communicate technical information
- Develop and present strategies for ongoing personal and professional development

Optional Co-op

This program offers the option to complete a co-op work term, providing valuable hands-on experience in your field of study.

Students who select the co-op stream will have the opportunity to participate in a co-op term(s) if eligibility requirements are maintained. Students will have the flexibility to transfer to the non co-op stream at any time. The co-op term(s) is typically a full-time paid position completed between two academic semesters. The co-op search is student-driven and participation in the co-op stream does not guarantee that a work position will be secured. However, students will receive guidance and support through in-class career workshops and one-on-one coaching to help prepare for the co-op term.

Review eligibility requirements for work-integrated learning (https://www.senecapolytechnic.ca/employers/seneca-works/work-integrated-learning/eligibility.html)

Your Career

Graduates of the program can explore the following career options:

- Field technician
- Ecology technician
- Remediation/restoration technician

- Water/wastewater operator
- Water resources technician
- Environmental consultant
- Water quality analyst
- Environmental compliance officer
- Erosion management technician
- Environmental management auditor
- Geospatial technician/analyst
- Project co-ordinator

Program of Study

Course Code	Course Name	Weekly Hours
Semester 1		
BEA101	CAD Fundamentals	4
COM101	Communicating Across Contexts	3
or COM111	Communicating Across Contexts (Enriched)	
EVP151	Environmental Field Practices	4
EVS141	Environmental Science	3
GTY171	Geomorphology and Soils	4
MTA100	Mathematics 100	5
Semester 2		
CHE251	Chemistry and the Environment	5
DMA251	Data Management and Analysis	3
FSC200	Field School: Stream Assessment	2
GEO251	Geospatial Data Collection and Techniques	5
SAR251	Site Assessment and Remediation	4
TEC400	Technical Communications	3
WTP100	Work Term Preparation *	1
plus: General Education Course (1)		3
Work-Integrated Learning Term		
ETM331	Environmental Technician, Co-op *	30
Semester 3		
ATE351	Aquatic and Terrestrial Ecology	4
ESA351	Environmental Sampling and Analysis	5
FSC300	Field School: Plant Identification	2
GEM351	Soil Science and Geomechanic Principles	4
GEO351	Geospatial Analysis	4
HWM351	Hydrology and Watershed Management	4
plus: General Education Course (1)		3
Semester 4		
AIR451	Air Pollution	5
EAL451	Environmental Auditing and Legislation	3
ERM451	Erosion and Sediment Management	4
FSC400	Field School: Soil and Groundwater	2
GEO451	Image Analysis and Interpretation	5
WWT451	Water and Wastewater Processes and Treatment	6
plus: General Education Course (1)		3

* Work-Integrated Learning option only

Note: The following course will not fulfil a General Education requirement: NAT260 Environmental Science.

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:

- Collect representative environmental samples and perform routine tests, using current and relevant tools.
- Use scientific concepts and models when contributing to the prevention, control and elimination of environmental hazards and remediation of contaminated sites.
- Assist with analysis of water/soil/air samples and with the resolution of environmental problems through the application of scientific and engineering principles.
- Follow standard procedures for conducting environmental sampling projects including the use of appropriate equipment and materials.
- Promote and maintain sustainable practices by applying the elements of ecosystem-based management.
- Carry out work responsibilities adhering to standards of professional conduct and principles of professional ethics.
- Complete assigned tasks in adherence to occupational health and safety standards and applicable legislative requirements.
- Follow established protocols in support of environmental management systems.
- Provide ongoing support for project management.
- Communicate technical information accurately and effectively in oral, written, visual and electronic forms.
- Develop and present strategies for ongoing personal and professional development to enhance performance as an environmental technician.

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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