

Environmental Protection: Diploma of Technology

Faculty of Science and Horticulture	kpu.ca/science
Program Type	Undergraduate
Credential Granted	Diploma
Offered At	Langley
Start Date(s)	September
Intake Type	Limited intake
Format	Full-time Part-time Co-op
Instructional Cycle	Semester-based
Curriculum Effective Date	01-Sep-2016
How to Apply	www.kpu.ca/admission

DESCRIPTION

Environmental protection technologists provide an invaluable service to society by helping protect and sustain the long-term health of our ecosystems.

Environmental consultants, industry and government seek out graduates from our Environmental Protection Technology program. They do this because our graduates have developed the skills needed to offer professional advice on a wide range of subjects, including: environmental impact assessment; hazardous and non-hazardous waste management; waste reduction and reuse strategies; air, soil and water pollution prevention and monitoring; compliance auditing; and contaminated site investigation and remediation. This skill set is based on an integrated, hands-on training program that gives graduates a good working knowledge of physical and life sciences, including general biology, ecology, toxicology, chemistry, physics and statistics. Specific topics covered by the program include:

- Air, water and soil field sampling
- Solid, liquid and air treatment methods
- Waste minimization
- Hazardous goods and waste handling methods
- WHMIS implementation and compliance evaluation
- Emergency planning and spill response methods
- Recycling and waste minimization program design
- Environmental issues analysis
- Environmental law and ethics
- Written and oral presentation skills
- Computer software competency

Although graduates typically work within a team of professionals, they must also be able to work independently and take initiative as required; the program helps promote these attributes. Successful completion of the two-year program prepares graduates for employment at the technology level within industry or government often with excellent potential for upward mobility as job experience grows.

Students may complete the program over the course of three years. This is recommended for students who intend to work part-time while enrolled in the program or for those who prefer a lighter academic load. Please contact the Program Chair for details.

For more information about this program, please visit the department web page at kpu.ca/environment.

Co-operative Education

This program operates with two four-month Co-op work terms. KPU has been successful in arranging unique and challenging placements with government agencies such as Environment Canada and the BC Ministry of the Environment, with environmental consultants, and with other industries. Most importantly, these Co-op placements facilitate entry into successful careers by the Environmental Protection Technology graduates.

STUDENT PROFILE

Environmental Protection Technology students vary in age and background. Some students come to us directly from high school, while others may be in their forties, looking for a change of career. There is usually a balance of genders, and about a third of our students come with some previous post-secondary credits. Typically our students seek a practical education that leads to varied careers that include opportunities for outdoor field work – and all are keen to make a contribution towards protecting our environment.

CAREER OPPORTUNITIES

An advisory committee works closely with the program to maintain and update the curriculum and ensure that graduates are well prepared for the job market. This committee consists of potential employers from the public and private sectors, as well as several graduates of the program who are well established in the field.

Graduates are employed with environmental consulting firms; federal, provincial or municipal departments; as environmental staff in large industries; or are self-employed.

Program graduates have experienced a high rate of employment in the environmental field. The Co-operative Education component of the program has proved to be extremely valuable, with several of the graduates obtaining positions with their Co-op employers. Examples of the type of work performed by Co-op students and graduates include: air, water, and soil sampling; waste-water systems investigations; contaminated sites assessments; contingency planning and spills response; waste permitting and compliance investigations; laboratory analysis; habitat evaluation; environmental auditing; environmental policy and legislation; recycling, composting and solid waste management; and public education.

ADMISSION REQUIREMENTS

In addition to the Faculty's Admission Requirements, which consist of KPU's undergraduate English Proficiency Requirement, the following program admission requirements apply:

- Minimum grade of C in one of: Principles of Mathematics 11, Pre-calculus 11, Applications of Mathematics 12 or Foundations of Mathematics 12 (or equivalent)

On 27 June 2016 a change to the admission requirements for this program was approved by Senate. Effective September 2017 the mathematics requirement above will be replaced with *Level E1 as defined in the Math Alternatives Table*. This change will appear in the 2017-18 University Calendar to be published in June 2017.

- Minimum grade of C+ in Chemistry 11 (or equivalent)

Students lacking any of these requisites must obtain their equivalent before being admitted to the program.

Preference will be given to applicants with demonstrated work experience in a relevant field, post-secondary education in a related discipline and excellence in courses required for admission. Applicants will be asked to submit a resume to demonstrate relevant work experience.

CURRICULAR REQUIREMENTS

The two-year program, which contains two four-month work terms, consists of the following sequence:

Year One

Fall

BIOL 1110	Introductory Biology I	4 credits
CBSY 1110	Business Problem Solving with Spreadsheets	3 credits
CMNS 1140	Introduction to Professional Communication	3 credits
COOP 1101	Job Search Techniques	1 credits
ENVI 1106	Environmental Chemistry I	4 credits
ENVI 1121	Environmental Issues	3 credits
MATH 1117*	Environmental Mathematics	3 credits

Spring

BIOL 1210	Introductory Biology II	4 credits
ENVI 1206	Environmental Chemistry II	4 credits
ENVI 1216	Introduction to Earth Sciences	4 credits
ENVI 1226	Health & Safety	3 credits
ENVI 2315	Water and Soil Sampling	4 credits

Summer

COOP 1150	Work Semester 1	9 credits
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Year Two

Fall

BIOL 2322	Ecology	4 credits
ENVI 2305	Environmental Toxicology	3 credits
ENVI 2310	Solid Waste Management	3 credits
ENVI 2901	Environmental Research Seminar	1 credits
MATH 1115	Statistics I	3 credits
PHYS 1400	Energy, Environment, Physics	3 credits

Spring

COOP 2150	Work Semester II	9 credits
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Summer

ENVI 2405	Environmental Legislation	3 credits
ENVI 2410	Water Resources Protection	3 credits
ENVI 2415	Air Quality Monitoring	4 credits
ENVI 2420	Contaminated Site Management	4 credits

ENVI 2902	Environmental Research Project	2 credits
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PHYS 1401	Environmental Physics Lab	1 credit
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Notes:

* Students who have already completed Principles of Math 12 or Pre-calculus 12 (or equivalent) with C+ or better do not need to take MATH 1117.

While successful completion of the two Co-op work terms is regarded as a requirement to graduate, it is sometimes possible to graduate without one or both Co-op components. This would be warranted by exceptional circumstances, and requires the documented recommendation of the Program Chair in consultation with the Co-op office. In every case, COOP 1101 is a required course for the Environmental Protection Technology diploma.

OTHER INFORMATION

Accreditation

The Environmental Protection Technology (EPT) program has been granted *National Accreditation* by the **Canadian Council of Technicians and Technologists** (CCTT) www.cctt.ca. *National Accreditation* provides students, employers and contractors assurance that the EPT program contains high educational quality, and by measuring its curriculum against *Canadian Technology Standards* established by the industry that graduates have the employability skills competencies required.

National Accreditation also provides access to membership with CCTT's provincial affiliate, the **Association of Applied Science Technologists and Technicians of British Columbia** (ASTTBC) www.asttbc.org, which, aside from many other benefits, qualifies one to seek professional certification as an *Applied Science Technologist* (AScT). This certification, while classified in different ways in other provinces, is transferable for work or moves across Canada and internationally in countries where partnerships with CCTT or ASTTBC have been established. This is a particularly important factor as many international contracts may demand that workers possess a national certification for quality control and assurance purposes.

While not a certifying body, membership in the **Environmental Careers Organization** (ECO) www.eco.ca is also available, providing added benefits and services to the environmental graduate.

CREDENTIAL AWARDED

Upon successful completion of this program, students are eligible to receive a **Diploma of Technology in Environmental Protection, Co-operative Education Option**.

Upon successful completion of this program without co-operative education, students are eligible to receive a **Diploma of Technology in Environmental Protection**.