

Environmental Technology (Co-op)

The Environmental Industry is one of the fastest growing sectors of the economy. The industry needs a supply of skilled technical people to meet the challenges of the 21st century by reducing environmental pollution and maintaining the well being of ecosystems. Students of this Environmental Technology Program will receive multidisciplinary training in chemical, biological, and engineering science focused on dealing with environmental pollution and sustainable development.

The College offers a three-year Co-operative Education diploma program in Environmental Technology. The co-operative education component affords graduates the opportunity to combine practical work experience with academic learning.

OBJECTIVES

1. To train students in the environmental field at a technical level.
2. To provide knowledge and skills related to all aspects of environmental technology.
3. To provide knowledge and experience in working with specialized equipment and techniques used in the field.

EMPLOYMENT OPPORTUNITIES

The graduates of the program may obtain employment in government or private industry. Employment would include such work as providing technical support to professional pollution control specialists, providing technical assistance with impact assessment studies to firms and/or consultants, and assisting government and industry in promoting their environmental education programs.

PROGRAM TRANSFERABILITY

Many graduates have gone on to pursue studies with advanced standing at a number of Canadian universities. Students who have graduated from the Environmental Technology program can apply for entry with advanced standing at a number of Bachelor of Environmental Science, Environmental Studies and post-diploma programs in Canada. Please refer to the Transfer Guide of the NL Council on Higher Education (www.edu.gov.nl.ca/council), or contact your intended university or college.

ACCREDITATION

To ensure the benefits of a consistently high standard of education, the College of the North Atlantic's Environmental Technology program is nationally accredited by the Canadian Technologies Accreditation Board (CTAB), and the Canadian Association for Cooperative Education (CAFCE).

ENTRANCE REQUIREMENTS

Comprehensive Arts and Science Certificate (College Transition program) with the following courses:

1. Math Fundamentals I and II
2. Two Science courses chosen from one of the following three combinations:
 - a. Introduction Biology I and II
 - b. Introductory Chemistry I and II
 - c. Introductory Physics I and II

Note: It is strongly recommended that all CAS students who intend to enroll in the Environmental Technology (Co-op) program complete both Introductory Chemistry courses.

OR

High School Graduation Certificate with a 60% overall average in the following:

1. Language (1 credit) (minimum 60%) chosen from: 3101, 3102, 3103, 3112, 3172, 3192, 4121
OR
English (2 credits) (minimum 60%) chosen from: 3201, 3211, 3202, 3212, 3231, 3232, 3281, 3282, 3291, 3292
2. Mathematics (2 credits) chosen from: Advanced: 3201, 3211, 3221, 3231, 3271, 3281, 3291, 4225 (50%) minimum
Academic: 3203, 3200, 3210, 3230, 3270, 3280, 3290, (60%) minimum
OR
Mathematics (4 credits) chosen from:
Advanced: 2205, 3205 (50% minimum in each course)
Academic: 2204 (50% minimum), 3204 (60% minimum)
3. Science (4 credits) two of which must be selected from:
Biology: 3201, 3211, 3231, 3271, 3281, 3291, 4221
Physics: 3204, 3214, 3274, 3284, 3294, 4224
Chemistry: 3202, 3212, 3230, 3272, 3282, 3292, 4222
Environmental Science: 3205
Geology: 3203, 3213, 3223, 3272, 3283, 3293
Earth Systems: 3213, 3209
Note: The remaining 2 Science credits to be chosen from the highest Science mark in level 1, 2 or 3.

OR

Persons 19 years of age or older, who have been out of school for at least one year and do not meet the educational prerequisite for this program, may be considered on an individual basis under the Mature Student Clause.

OR

Grade XI Public Examination pass with a 60% average including a 60% pass in language, 60% in Matriculation Mathematics or 50% in Honours Mathematics, and one Science course,

OR

Adult Basic Education (Level III) Graduation indicating completion of the academic stream including the following courses:

1. Communications IC3211 & IC3112 plus one of IC3116 or IC3215 or IC3321 or IC3222
2. Mathematics from one of the following sections:
 - a. Mathematics IM3212, IM3213 and IM3216
 - b. Mathematics IM3219
3. Science from one of the following sections:
 - a. Biology IB3113, IB3214, IB3115, IB3316
 - b. Chemistry IH3215, IH3116, IH3117, IH3118

CERTIFICATIONS

In addition to the formal semester subjects listed in the program of studies, students in the Environmental Technology Co-op program are required to obtain certification in the following areas over the three-year period of studies:

Restricted Operators Certificate (Marine) DSC Endorsement
WHMIS
Transportation of Dangerous Good (TDG)
Pleasure Craft Operators Card
Small Boat Safety
Standard First Aid & CPR/AED
Back Injury Prevention
Power Line Hazards

NOTE: Students should be aware that additional fees and expenses apply for some of these certifications and for field trips, tours and On-the-job Training.

Students will also be required to complete a number of non-credit co-op education seminars throughout the course of the 3-year program (resume writing, job search skills and interview preparation).

DIPLOMA

- Three years
- September start
- Corner Brook Campus

COURSES

CODE	TITLE	Hrs/wk		
		Cr	Le	La
Semester 1				
BL1100	Biology	4	3	2
CM1400	Technical Report Writing I	3	3	0
MA1100	Mathematics I	5	4	2
MC1080	Introduction to Computers	2	2	0
CH1120	Chemistry I	4	3	2
EN1520	Environmental Sampling	3	2	2
EN2120	Environmental Citizenship	3	3	0

*Admission into the appropriate Mathematics course will be decided by the grade in high school math.

EITHER

Students who received at least 70% in level III Math 3200 or a pass in Math 3201 can be exempted from MA1100

OR

Students who received a combined average of 70% in 2204 and 3204, or a pass in both of 2205 and 3205 can be exempted from MA1100.

Students must apply for the exemption.

Semester 2				
		Cr	Le	La
MA1140	Mathematics II	5	4	2
BL1130	Microbiology	4	3	3
CH1121	Chemistry II	4	3	2
EN2320	Occupational Health & Safety	3	2	2
CM1401	Technical Report Writing II	3	3	0
EG1100	Engineering Graphics	3	2	3

Semester 3 (Intersession I)				
		Cr	Le	La
GE1300	Soil Fundamentals	3	4	6
EN2300	Environmental Law & Policy	3	6	0
SU1150	Field Navigation	3	4	6

Intersession course hours per week are doubled to accommodate the six-week period. Credit value is based on a fifteen-week semester.

Semester 4				
		Cr	Le	La
EN3200	Environmental Impact Assessment	3	3	0
EY2110	Basic Ecology	4	3	2
PH1100	Physics I	4	3	2
EN2500	Water Resources	4	3	2
CH2700	Analytical Chemistry	4	3	3
MA1670	Statistics	4	4	1

Semester 5				
		Cr	Le	La
CH3700	Organic Chemistry	4	3	2
EN1600	Environmental Site Assessment I	3	2	2
EN1540	Air Pollution	4	3	2
EN2220	Solid Waste Management	4	3	2
SU1550	Remote Sensing	3	2	3
PH1101	Physics II	4	3	2

Semester 6				
		Cr	Le	La
WC1520	Co-op Work Term I	5	0	0

Semester 7				
		Cr	Le	La
SU3210	Geographic Information Systems	2	1	3
EN1601	Environmental Site Assessment II	4	3	2
EN2540	Waste Water Management & Treatment	4	3	2
EN3300	Environmental Auditing	4	3	2
PR2550	Technical Thesis I	2	1	2
EN1530	Water Quality	4	3	2

Semester 8				
		Cr	Le	La
WC1521	Co-op Work Term II	5	0	0

Semester 9				
		Cr	Le	La
SU1400	Surveying	3	4	6
PR2551	Technical Thesis II	3	2	10
EN2700	Project Management	3	6	0

- c. Physics IP3111, IP3112, IP3215, IP3216
- d. Earth Science IS3212, IS3213, IS3214.

OR

Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses:

1. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
2. Mathematics 1104A, 1104B, 1104C, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
3. Science from one of the following sections:
 - a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
 - b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
 - c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C

Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

SPECIAL REQUIREMENTS

Because of the extensive field and laboratory exposure incorporated in this program, students will be required to obtain specialized clothing and equipment, including a lab coat, safety glasses, graphics calculator, navigation compass, quality safety boots, rainwear, and other clothing appropriate for outdoor work.

