

ENVIRONMENTAL ENGINEERING PROGRAM CO- OP (ENVE:C)

School of Engineering, College of Engineering and Physical Sciences

The degradation of the environment is a concern shared by citizens, government agencies, non-governmental agencies and businesses. The Environmental Engineering program offered by the School of Engineering provides graduates with design and engineering skills to minimize and prevent the impact of human activities on water, soil and air systems. Both simple and innovative solutions are part of the tool box. Graduates will also creatively integrate humanistic and social perspectives in their solutions.

Program Requirements

The Co-op program in Environmental Engineering is a five year program, including five work terms. Students must follow the academic work schedule as outlined below (also found on the Co-operative Education website: <https://www.recruitguelph.ca/cecs/>).

Environmental Engineering Academic and Co-op Work Term Schedule

Year	Fall	Winter	Summer
1	Academic Semester 1	Academic Semester 2	Off
2	Academic Semester 3 COOP*1100	Academic Semester 4	COOP*1000 Work Term I
3	Academic Semester 5	COOP*2000 Work Term II	COOP*3000 Work Term III
4	Academic Semester 6	Academic Semester 7	COOP*4000 Work Term IV
5	COOP*5000 Work Term V	Academic Semester 8	N/A

To be eligible to continue in the Co-op program, students must meet a minimum 70% cumulative average requirement after second semester, as well as meet all work term requirements. Please refer to the Co-operative Education program policy with respect to work term performance grading, work term report grading and program completion requirements.

For additional program information students should consult with their Co-op Co-ordinator and Co-op Faculty Advisor, listed on the Co-operative Education web site.

Credit Summary

(26.00 Total Credits)

Code	Title	Credits
Required Core Courses		19.00
ENVE-1	Environmental Engineering Electives	1.00
ENVE-2	Environmental Engineering Electives	2.00
Complementary Studies Electives		1.50
Co-op Work Terms		2.50
Total Credits		26

The recommended program sequence is outlined below.

Major (Honours Program)

Code	Title	Credits
Semester 1 - Fall		
CHEM*1040	General Chemistry I	0.50
ENGG*1100	Engineering and Design I	0.75
ENGG*1500	Engineering Analysis	0.50
MATH*1200	Calculus I	0.50
PHYS*1130	Physics with Applications	0.50
Semester 2 - Winter		
CHEM*1050	General Chemistry II	0.50
CIS*1500	Introduction to Programming	0.50
ENGG*1210	Engineering Mechanics I	0.50
MATH*1210	Calculus II	0.50
PHYS*1010	Introductory Electricity and Magnetism	0.50
Semester 3 - Fall		
COOP*1100	Introduction to Co-operative Education	0.00
ENGG*2130	Introduction to Environmental Engineering	0.50
ENGG*2230	Fluid Mechanics	0.50
ENGG*2400	Engineering Systems Analysis	0.50
MATH*2270	Applied Differential Equations	0.50
STAT*2120	Probability and Statistics for Engineers	0.50
BIOL*1090	Introduction to Molecular and Cellular Biology	0.50
or MICR*2420	Introduction to Microbiology	
Semester 4 - Winter		
ENGG*2100	Engineering and Design II	0.75
ENGG*2120	Material Science	0.50
ENGG*2560	Environmental Engineering Systems	0.50
HIST*1250	Science and Technology in a Global Context	0.50
MATH*2130	Numerical Methods	0.50
0.50 restricted electives		0.50
Summer Semester		
COOP*1000	Co-op Work Term I	0.50
Semester 5 - Fall		
ENGG*3180	Air Quality	0.50
ENGG*3240	Engineering Economics	0.50
ENGG*3260	Thermodynamics	0.50
ENGG*3590	Water Quality	0.50
ENGG*3650	Hydrology	0.50
ENGG*3670	Soil Mechanics	0.50
Winter Semester		
COOP*2000	Co-op Work Term II	0.50
Summer Semester		
COOP*3000	Co-op Work Term III	0.50
Semester 6 - Fall		
ENGG*4340	Solid and Hazardous Waste Management	0.50
ENGG*4370	Urban Water Systems Design	0.75
1.50 restricted electives		1.50
Semester 7 - Winter		

ENGG*3100	Engineering and Design III	0.75
ENGG*3220	Groundwater Engineering	0.50
ENGG*3430	Heat and Mass Transfer	0.50
ENGG*3440	Process Control	0.50
ENGG*3470	Mass Transfer Operations	0.50
0.50 restricted electives		0.50
Summer Semester		
COOP*4000	Co-op Work Term IV	0.50
Fall Semester		
COOP*5000	Co-op Work Term V	0.50
ENGG*4000	Proposal for Engineering Design IV	0.00
Semester 8 - Winter		
ENGG*4130	Environmental Engineering Design IV	1.00
2.00 restricted electives		2.00

Restricted Electives

(see Program Guide for more information)

The Engineering Program requires Environmental Engineering students to complete the following combination of elective credits to complete their program:

- 1.00 credits from the ENVE-1 Environmental Engineering electives
- 2.00 credits from the ENVE-2 Environmental Engineering electives
- 1.50 credits from Complementary Studies electives

Consult the Program Guide for further information on the prerequisite requirements specific to each elective. Students can take a maximum of 1.50 credits at the 1000 level from the above list of electives.