Environmental Science

Co-operative Education option is available in the Environmental Science program.

Graduation Requirements

In addition to the requirements listed below, students must satisfy:

- 1. the University regulations (see the *Academic Regulations of the University* section of this Calendar),
- 2. the common regulations applying to all B.Sc. programs including those relating to Science Continuation and Breadth requirements (see *Academic Regulations for the Bachelor of Science Degree*).

Students should consult with the Institute when planning their program and selecting courses.

Course Categories

The Environmental Science program description makes use of the following course categories:

Approved Arts or Social Sciences

(approved by the Environmental Science Institute)

Approved Environmental Science Specialization

(Approved by the Environmental Science Institute)

Free Electives

(see Academic Regulations for the Bachelor of Science Degree)

Approved Science for Environmental Science

Courses approved by the Institute of Environmental Science include the following that comply with the Academic Regulations for the Bachelor of Science degree.

- · Biochemistry
- Biology
- Chemistry
- · Computer Science
- · Earth Science
- · Environmental Science
- · Geography
- Geomatics
- · Mathematics and Statistics
- · Physics

Prohibited and Restricted Courses

Technology, Society, Environment Studies (TSES) courses are not accepted as Science Continuation courses in these programs, but may be used as Approved Environmental Science Specialization courses or as free electives.

Program Requirements

Environmental Science B.Sc. Honours (20.0 credits)

A. Credits Included in the Major CGPA (11.0 credits)

1. 5.0 credits from: 5.0

ENSC 1500 [0.5] Environmental Science Seminar

	ENSC 2000 [0.5]	Environmental Science Field Camp	
	ENSC 2001 [0.5]	Earth Resources and Natural	
		Hazards: Environmental Impacts	
	ENSC 2002 [0.5]	Methods and Analysis in Environmental Science	
	ENSC 3000 [0.5]	Environmental Science and Management: Theory and Practice	
	ENSC 3001 [0.5]	Professional Practice in Environmental Science	
	ENSC 3509 [0.5]	Group Research Project	
	ENSC 3906 [0.5]	Research Techniques and Project Planning	
	ENSC 4906 [1.0] or	Honours Research Project	
	ENSC 4901 [0.5]	Directed Projects	
	and 0.5 credit 4000 Environmental Scie	-level Approved Science for nce	
2.	1.0 credit in:		1.0
	BIOL 2600 [0.5]	Introduction to Ecology	
	CHEM 2800 [0.5]	Foundations for Environmental Chemistry	
3.	0.5 credit from:		0.5
	GEOG 3103 [0.5]	Watershed Hydrology	
	GEOG 3104 [0.5]	Principles of Biogeography	
	GEOG 3105 [0.5]	Climate and Atmospheric Change	
	GEOG 3108 [0.5]	Soil Properties	
4.	0.5 credit from:		0.5
	ERTH 2402 [0.5]	Climate Change: An Earth Sciences Perspective	
	ERTH 2403 [0.5]	Introduction to Oceanography	
	ERTH 3205 [0.5]	Physical Hydrogeology	
	1.0 credit in Approcience at the 4000-le	ved Science for Environmental evel excluding:	1.0
	ENSC 4001 [0.5]	Environmental Science Practicum	
	1.5 credits in Appr cience	oved Science for Environmental	1.5
	1.5 credits in Appropriate 1.5 credits 1.5	roved Environmental Science	1.5
		ed in the Major CGPA (9.0 credits)	
8.	1.0 credit in:		1.0
	MATH 1007 [0.5]	Elementary Calculus I	
	STAT 2507 [0.5]	Introduction to Statistical Modeling I	
9.	3.0 credits in:		3.0
	BIOL 1103 [0.5]	Foundations of Biology I	
	BIOL 1104 [0.5]	Foundations of Biology II	
	CHEM 1001 [0.5]	General Chemistry I	
	CHEM 1002 [0.5]	General Chemistry II	
	ERTH 1006 [0.5]	Exploring Planet Earth	
	GEOG 2013 [0.5]	Weather and Water	
10). 0.5 credit in:	lates desting to Engineers antal	0.5
	PHIL 2380 [0.5]	Introduction to Environmental Ethics	
11	. 0.5 credit in:		0.5
	CHEM 2302 [0.5]	Analytical Chemistry I	
12	2. 0.5 credit from:		0.5
	BIOL 2107 [0.5]	Fundamentals of Genetics	
4.0	or BIOL 2201 [0.5]	Cell Biology and Biochemistry	^ -
13	3. 0.5 credit from:	Materials ad Historials	0.5
	GEOG 3103 [0.5]	Watershed Hydrology	

GEOG 3104 IO FI	Principles of Piogography		BIOI 3004 to E1	Insect Diversity	
GEOG 3104 [0.5] GEOG 3105 [0.5]	Principles of Biogeography Climate and Atmospheric Change		BIOL 3004 [0.5] BIOL 3102 [0.5]	Insect Diversity	
GEOG 3105 [0.5] GEOG 3108 [0.5]	Climate and Atmospheric Change Soil Properties		BIOL 3102 [0.5]	Mycology Plant Biochemistry and Physiology	
14. 0.5 credit from:	Soil Properties	0.5	c. 2.0 credits in a f		
ERTH 2402 [0.5]	Climate Change: An Earth	0.5	Ecology focus:	ocus.	
LK111 2402 [0.5]	Sciences Perspective		i) 0.5 credit in:		
ERTH 2403 [0.5]	Introduction to Oceanography		BIOL 3604 [0.5]	Analysis of Ecological	
ERTH 3205 [0.5]	Physical Hydrogeology		DIOL 3004 [0.3]	Relationships	
	proved Arts and Social Sciences	1.5	ii) 1.0 credit from:	·	
16. 1.0 credit in free	electives.	1.0	BIOL 3601 [0.5]	Ecosystems and Environmental	
Total Credits		20.0		Change	
Fundamental O	-1		BIOL 3602 [0.5]	Conservation Biology	
	cience with Concentration in	l	BIOL 3605 [0.5]	Field Course I	
Biology	20.0 aradita)		BIOL 3606 [0.5]	Field Course II	
B.Sc. Honours (2			iii) 0.5 credit BIOL	at the 4000-level	
	n the Major CGPA (11.5 credits)		or		
1. 5.0 credits from:		5.0	Microbiology/gene	tics focus:	
ENSC 1500 [0.5]	Environmental Science Seminar		i) 1.0 credit from:		
ENSC 2000 [0.5]	Environmental Science Field Camp		BIOL 3104 [0.5]	Molecular Genetics	
ENSC 2001 [0.5]	Earth Resources and Natural		BIOL 4103 [0.5]	Population Genetics	
ENSC 2002 [0.5]	Hazards: Environmental Impacts Methods and Analysis in		ii) 0.5 credit from:		
ENSC 2002 [0.5]	Environmental Science		BIOL 2303 [0.5]	Microbiology	
ENSC 3000 [0.5]	Environmental Science and		BIOL 3102 [0.5]	Mycology	
21100 0000 [0.0]	Management: Theory and Practice		BIOL 3303 [0.5]	Experimental Microbiology	
ENSC 3001 [0.5]	Professional Practice in		iii) 0.5 credit BIOL		
	Environmental Science			ded in the Major CGPA (8.5 credits)	
ENSC 3509 [0.5]	Group Research Project		8. 1.0 credit in:		1.0
ENSC 3906 [0.5]	Research Techniques and Project		MATH 1007 [0.5]	Elementary Calculus I	
	Planning		STAT 2507 [0.5]	Introduction to Statistical Modeling I	0
ENSC 4906 [1.0]	Honours Research Project		9. 3.0 credits in:	Farm detiens of Biology I	3.
Or			BIOL 1103 [0.5]	Foundations of Biology I	
ENSC 4901 [0.5] a Science for Enviror	nd 0.5 credit 4000-level Approved		BIOL 1104 [0.5]	Foundations of Biology II	
2. 1.0 credit in:	imental Science	1.0	CHEM 1001 [0.5]	General Chemistry I	
BIOL 2600 [0.5]	Introduction to Ecology	1.0	CHEM 1002 [0.5] GEOG 2013 [0.5]	General Chemistry II Weather and Water	
CHEM 2800 [0.5]	Foundations for Environmental		ERTH 1006 [0.5]	Exploring Planet Earth	
CI ILIVI 2000 [0.5]	Chemistry		10. 0.5 credit in:	Exploring Flanet Latti	0.9
3. 0.5 credit from:	,	0.5	PHIL 2380 [0.5]	Introduction to Environmental	0.
GEOG 3103 [0.5]	Watershed Hydrology		FTIIL 2300 [0.3]	Ethics	
GEOG 3104 [0.5]	Principles of Biogeography		11. 0.5 credit in:		0.4
GEOG 3105 [0.5]	Climate and Atmospheric Change		CHEM 2302 [0.5]	Analytical Chemistry I	
GEOG 3108 [0.5]	Soil Properties		12. 0.5 credit in:	,	0.
4. 0.5 credit from:	·	0.5	BIOL 2107 [0.5]	Fundamentals of Genetics	
ERTH 2402 [0.5]	Climate Change: An Earth		13. 0.5 credit from:		0.
	Sciences Perspective		GEOG 3103 [0.5]	Watershed Hydrology	
ERTH 2403 [0.5]	Introduction to Oceanography		GEOG 3104 [0.5]	Principles of Biogeography	
ERTH 3205 [0.5]	Physical Hydrogeology		GEOG 3105 [0.5]	Climate and Atmospheric Change	
	oved Science for Environmental	0.5	GEOG 3108 [0.5]	Soil Properties	
Science at the 4000-le			14. 0.5 credit from:		0.
ENSC 4001 [0.5]	Environmental Science Practicum		ERTH 2402 [0.5]	Climate Change: An Earth	
6. 4.0 credits in:		4.0		Sciences Perspective	
a. 1.5 credit in:			ERTH 2403 [0.5]	Introduction to Oceanography	
BIOL 2001 [0.5]	Animals: Form and Function		ERTH 3205 [0.5]	Physical Hydrogeology	
BIOL 2002 [0.5]	Plants: Form and Function		· ·	proved Arts and Social Sciences	1.
BIOL 2201 [0.5]	Cell Biology and Biochemistry		16. 0.5 credit in free	electives.	0.
b. 0.5 credit from:	Microbiology		Total Credits		20.0

Environmental Science with Concentration in Chemistry

B.Sc. Honours (20.0 credits)

A Credits	Included	in the	Major CGPA	(12.0 credits)

A.	Credits Included in	n the Major CGPA (12.0 credits)	
1.	5.0 credits from:		5.0
	ENSC 1500 [0.5]	Environmental Science Seminar	
	ENSC 2000 [0.5]	Environmental Science Field Camp	
	ENSC 2001 [0.5]	Earth Resources and Natural	
		Hazards: Environmental Impacts	
	ENSC 2002 [0.5]	Methods and Analysis in Environmental Science	
	ENSC 3000 [0.5]	Environmental Science and Management: Theory and Practice	
	ENSC 3001 [0.5]	Professional Practice in Environmental Science	
	ENSC 3509 [0.5]	Group Research Project	
	ENSC 3906 [0.5]	Research Techniques and Project Planning	
	ENSC 4906 [1.0]	Honours Research Project	
	Or		
	ENSC 4901 [0.5] ar Science for Environ	nd 0.5 credit 4000-level Approved mental Science	
2.	1.0 credit in:		1.0
	BIOL 2600 [0.5]	Introduction to Ecology	
	CHEM 2800 [0.5]	Foundations for Environmental Chemistry	
3.	0.5 credit from:		0.5
	GEOG 3103 [0.5]	Watershed Hydrology	
	GEOG 3104 [0.5]	Principles of Biogeography	
	GEOG 3105 [0.5]	Climate and Atmospheric Change	
	GEOG 3108 [0.5]	Soil Properties	
4.	0.5 credit from:		0.5
	ERTH 2402 [0.5]	Climate Change: An Earth Sciences Perspective	
	ERTH 2403 [0.5]	Introduction to Oceanography	
	ERTH 3205 [0.5]	Physical Hydrogeology	
5.	3.0 credits in:		3.0
	CHEM 2203 [0.5]	Organic Chemistry I	
	CHEM 2204 [0.5]	Organic Chemistry II	
	CHEM 2303 [0.5]	Analytical Chemistry II	
	CHEM 2501 [0.5]	Introduction to Inorganic and Bioinorganic Chemistry	
	CHEM 3305 [0.5]	Advanced Analytical Chemistry Laboratory	
	CHEM 3800 [0.5]	The Chemistry of Environmental Pollutants	
6.	1.5 credits in:		1.5
	Organic focus:		
	CHEM 3201 [0.5]	Advanced Organic Chemistry I	
	CHEM 3202 [0.5]	Advanced Organic Chemistry II	
	CHEM 3205 [0.5]	Experimental Organic Chemistry	
or			
	Inorganic focus:		
	i) 1.0 credit in:		
	CHEM 3503 [0.5]	Inorganic Chemistry I	
	CHEM 3504 [0.5]	Inorganic Chemistry II	
	CHEM 3504 [0.5] ii) 0.5 credit in CHE	-	

	CHEM 4800 [0.5]	Atmospheric Chemistry					
В	B. Credits not included in the Major CGPA (8.0 credits)						
8.	1.5 credit in:		1.5				
	MATH 1007 [0.5]	Elementary Calculus I					
	MATH 1107 [0.5]	Linear Algebra I					
	STAT 2507 [0.5]	Introduction to Statistical Modeling I					
9.	3.0 credits in:		3.0				
	BIOL 1103 [0.5]	Foundations of Biology I					
	BIOL 1104 [0.5]	Foundations of Biology II					
	CHEM 1001 [0.5]	General Chemistry I					
	CHEM 1002 [0.5]	General Chemistry II					
	ERTH 1006 [0.5]	Exploring Planet Earth					
	GEOG 2013 [0.5]	Weather and Water					
10). 0.5 credit in:		0.5				
	PHIL 2380 [0.5]	Introduction to Environmental Ethics					
11	. 0.5 credit in:		0.5				
	CHEM 2302 [0.5]	Analytical Chemistry I					
12	2. 0.5 credit from:		0.5				
	BIOL 2107 [0.5]	Fundamentals of Genetics					
	or BIOL 2201 [0.5]	Cell Biology and Biochemistry					
13	3. 0.5 credit from:		0.5				
	GEOG 3103 [0.5]	Watershed Hydrology					
	GEOG 3104 [0.5]	Principles of Biogeography					
	GEOG 3105 [0.5]	Climate and Atmospheric Change					

Environmental Science with Concentration in Earth Sciences

B.Sc. Honours (20.0 credits)

Total Credits

GEOG 3108 [0.5] Soil Properties

A. Credits Included in the Major CGPA (11.5 credits)

14. 1.5 credits in Approved Arts and Social Sciences

		, , , , , , , , , , , , , , , , , , , ,		
1.	5.0 credits from:		5.0	
	ENSC 1500 [0.5]	Environmental Science Seminar		
	ENSC 2000 [0.5]	Environmental Science Field Camp		
	ENSC 2001 [0.5]	Earth Resources and Natural Hazards: Environmental Impacts		
	ENSC 2002 [0.5]	Methods and Analysis in Environmental Science		
	ENSC 3000 [0.5]	Environmental Science and Management: Theory and Practice		
	ENSC 3001 [0.5]	Professional Practice in Environmental Science		
	ENSC 3509 [0.5]	Group Research Project		
	ENSC 3906 [0.5]	Research Techniques and Project Planning		
	ENSC 4906 [1.0]	Honours Research Project		
	Or			
	ENSC 4901 [0.5] and 0.5 credit 4000-level Approved Science for Environmental Science			
2.	1.0 credit in:		1.0	
	BIOL 2600 [0.5]	Introduction to Ecology		
	CHEM 2800 [0.5]	Foundations for Environmental Chemistry		
3.	0.5 credit from:		0.5	
	GEOG 3103 [0.5]	Watershed Hydrology		
	GEOG 3104 [0.5]	Principles of Biogeography		

1.5

20.0

CEOC 2405 IO 53	Climate and Atmospheric Change		ENISC 1500 (0.5)	Environmental Science Seminar	
GEOG 3105 [0.5] GEOG 3108 [0.5]	Climate and Atmospheric Change Soil Properties		ENSC 1500 [0.5] ENSC 2000 [0.5]	Environmental Science Seminar	
4. 3.0 credits in:	Soil Properties	3.0	ENSC 2000 [0.5]	Environmental Science Field Camp Earth Resources and Natural	
ERTH 2102 [0.5]	Mineralogy to Petrology	3.0	ENSC 2001 [0.5]	Hazards: Environmental Impacts	
ERTH 2104 [0.5]	Igneous Systems, Geochemistry		ENSC 2002 [0.5]	Methods and Analysis in	
	and Processes			Environmental Science	
ERTH 2105 [0.5]	Geodynamics		ENSC 3000 [0.5]	Environmental Science and	
ERTH 2314 [0.5]	Sedimentation and Stratigraphy		ENCC 2004 [0.5]	Management: Theory and Practice	
ERTH 2406 [0.5]	Geology and Map Interpretation		ENSC 3001 [0.5]	Professional Practice in Environmental Science	
ERTH 3205 [0.5]	Physical Hydrogeology		ENSC 3509 [0.5]	Group Research Project	
5. 1.0 credit from:		1.0	ENSC 4700 [0.5]	Topics in Environmental Science	
ERTH 2312 [0.5]	Paleontology		2. 1.0 credit in:	•	1.0
ERTH 3003 [0.5]	Geochemistry and Geochronology		BIOL 2600 [0.5]	Introduction to Ecology	
ERTH 3204 [0.5]	Mineral Deposits		CHEM 2800 [0.5]	Foundations for Environmental	
ERTH 3206 [0.5]	Oceanography: Its Modern and Geologic Records			Chemistry	
ERTH 3207 [0.5]	Metamorphic Petrology and		3. 0.5 credit from:		0.5
	Processes		GEOG 3103 [0.5]	Watershed Hydrology	
ERTH 3405 [0.5]	Geophysical Methods		GEOG 3104 [0.5]	Principles of Biogeography	
ERTH 3806 [0.5]	Structural Geology		GEOG 3105 [0.5]	Climate and Atmospheric Change	
6. 1.0 credit in ERTH	at the 4000-level	1.0	GEOG 3108 [0.5]	Soil Properties	0.5
B. Credits not includ	ed in the Major CGPA (8.5 credits)		4. 0.5 credit from:	Climata Changa An Earth	0.5
7. 1.0 credit in:		1.0	ERTH 2402 [0.5]	Climate Change: An Earth Sciences Perspective	
MATH 1007 [0.5]	Elementary Calculus I		ERTH 2403 [0.5]	Introduction to Oceanography	
STAT 2507 [0.5]	Introduction to Statistical Modeling I		ERTH 3205 [0.5]	Physical Hydrogeology	
8. 3.0 credits in:		3.0		oved Science for Environmental	1.0
BIOL 1103 [0.5]	Foundations of Biology I		Science at the 4000-le		
BIOL 1104 [0.5]	Foundations of Biology II		ENSC 4001 [0.5]	Environmental Science Practicum	
CHEM 1001 [0.5]	General Chemistry I		6. 1.5 credits in Appr	roved Science for Environmental	1.5
CHEM 1002 [0.5]	General Chemistry II		Science		
ERTH 1006 [0.5]	Exploring Planet Earth			roved Environmental Science	1.5
GEOG 2013 [0.5] 9. 0.5 credit in:	Weather and Water	0.5	Specialization R Credits Not Include	led in the Major CGPA (10.0	
PHIL 2380 [0.5]	Introduction to Environmental	0.5	credits)	ied in the major GGFA (10.0	
1 1112 2000 [0.0]	Ethics		8. 1.0 credit in:		1.0
10. 0.5 credit in:		0.5	MATH 1007 [0.5]	Elementary Calculus I	
CHEM 2302 [0.5]	Analytical Chemistry I		STAT 2507 [0.5]	Introduction to Statistical Modeling I	
11. 0.5 credit in:		0.5	9. 3.0 credits in:		3.0
PHYS 1007 [0.5]	Elementary University Physics I		BIOL 1003 [0.5]	Introductory Biology I	
12. 0.5 credit from:		0.5	BIOL 1004 [0.5]	Introductory Biology II	
GEOG 3103 [0.5]	Watershed Hydrology		CHEM 1001 [0.5]	General Chemistry I	
GEOG 3104 [0.5]	Principles of Biogeography		CHEM 1002 [0.5]	General Chemistry II	
GEOG 3105 [0.5]	Climate and Atmospheric Change		ERTH 1006 [0.5]	Exploring Planet Earth	
GEOG 3108 [0.5]	Soil Properties		GEOG 2013 [0.5]	Weather and Water	
13. 0.5 credit from:		0.5	10. 0.5 credit in:		0.5
ERTH 2402 [0.5]	Climate Change: An Earth Sciences Perspective		PHIL 2380 [0.5]	Introduction to Environmental Ethics	
ERTH 2403 [0.5]	Introduction to Oceanography		11. 0.5 credit in:		0.5
ERTH 2802 [0.5]	Field Geology I		CHEM 2302 [0.5]	Analytical Chemistry I	
	proved Arts or Social Sciences	1.5	12. 0.5 credit from:		0.5
15. 0.5 credit in:		0.5	BIOL 2107 [0.5]	Fundamentals of Genetics	
GEOM 2007 [0.5]	Geographic Information Systems		or BIOL 2201 [0.5]	Cell Biology and Biochemistry	0.5
Total Credits		20.0	13. 0.5 credit from:	Watershed Hudreless	0.5
Environmental S	cience		GEOG 3103 [0.5]	Watershed Hydrology	
B.Sc. Major (20.0	credits)		GEOG 3104 [0.5] GEOG 3105 [0.5]	Principles of Biogeography Climate and Atmospheric Change	
A. Credits Included i	n the Major CGPA (11.0 credits)		GEOG 3108 [0.5]	Soil Properties	
1. 4.0 credits in:	,	4.0	0200 0100 [0.0]	- Com . 10portion	

14. 0.5 credit from:

Total Credits				
16.	2.0			
15. 1.5 credits in Approved Arts and Social Sciences				
Е	ERTH 3205 [0.5]	Physical Hydrogeology		
E	ERTH 2403 [0.5]	Introduction to Oceanography		
E	ERTH 2402 [0.5]	Climate Change: An Earth Sciences Perspective		

Institute of Environmental Science Faculty of Science

ENSC 1500 [0.5 credit]

Environmental Science Seminar

The purpose and nature of the program; society's view on the natural and human-modified environment; major environmental issues and their scientific aspects; preparation and presentation of paper and seminars. Prerequisite(s): enrolment in the Environmental Science program.

Lectures, seminars and workshops four hours a week.

ENSC 2000 [0.5 credit]

Environmental Science Field Camp

A fall field course that exposes students to exercises from geological, hydro geological, chemical, biological, and geographic aspects of environmental science. A supplementary field camp fee will apply.

Prerequisite(s): ERTH 1006 and BIOL 1004 or BIOL 1104, CHEM 1001 and CHEM 1002 and permission of the Institute.

field course

ENSC 2001 [0.5 credit]

Earth Resources and Natural Hazards: Environmental Impacts

Environmental impact of mineral, energy and water resource exploitation and impact of hazardous Earth processes such as volcanic eruptions, earthquakes and others: their prediction and mitigation.

Lectures three hours per week.

ENSC 2002 [0.5 credit]

Methods and Analysis in Environmental Science

Study and application of qualitative and quantitative techniques in environmental science, including data collection and assembly, database manipulation, data analysis, and strategy development. Example case studies focus on multidisciplinary environmental problems involving techniques, such as, life cycle analysis, environmental impact analysis and carbon footprint analysis.

Prerequisite(s): completion of ENSC 2000 and permission of the institute.

Lectures and seminars three hours a week.

ENSC 3000 [0.5 credit]

0.5

Environmental Science and Management: Theory and Practice

Theoretical and practical perspectives related to environmental science and management; Emphasis on real-world problems associated with human activities and development of solutions in natural and built environments; Hands-on experience with environmental monitoring and restoration. A supplementary fee will apply. Prerequisite(s): third-year standing in Environmental Science or permission of the Institute.

Field trips, lectures and workshops, 7 hours per week (delivered on a single day).

ENSC 3001 [0.5 credit]

Professional Practice in Environmental Science

Study of professional activities and the documentation of proposals, planning, accreditation and research; issues of health and safety, professional ethics and codes of certification; review of practicum, internship and co-op work terms, and the professional application of Environmental Science; Guest lectures and visits. Prerequisite(s): third-year standing in Environmental Science or permission of the Institute.

Lectures, seminars and workshops three hours a week.

ENSC 3509 [0.5 credit] Group Research Project

Major project relating to an issue involving environmental science; effective methods of team research and presentation of group work.

Prerequisite(s): third-year standing in the Environmental Science program or permission of the Institute. Lectures, seminars and workshops three hours a week.

ENSC 3700 [0.5 credit]

Topics in Environmental Science

Specific topics of current interest. Topics may vary from year to year.

Prerequisite(s): Third year standing in the Environmental Science program or permission of the Institute.

ENSC 3906 [0.5 credit]

Research Techniques and Project Planning

Discussions and workshops on the fundamentals of scientific investigation, including use of literature, theory and data, preparation and evaluation of a scientific research proposal.

Prerequisite(s): ENSC 3509 and good standing in third year Environmental Science with a minimum CGPA of 6.0 or permission of the Program Director.

Discussion groups and workshops three hours a week.

ENSC 3999 [0.0 credit] Co-operative Work Term

Practical experience for students enrolled in the Cooperative Option. To receive course credit a student must receive satisfactory evaluations from their work term employer. Written reports describing the work term project will be required. Graded Sat or Uns.

Prerequisite(s): registration in the Environmental Science Co-operative Option and permission of the Institute. Fourmonth work term.

ENSC 4001 [0.5 credit]

Environmental Science Practicum

Experience working in the environmental science sector, applying academic training to practical environmental issues. Graded Sat/Uns.

Prerequisite(s): fourth-year standing in the Environmental Science program. practicum

ENSC 4700 [0.5 credit]

Topics in Environmental Science

Prerequisite(s): third-year standing in the Environmental Science program or permission of the Institute. Lectures and discussion three hours a week.

ENSC 4901 [0.5 credit] Directed Projects

Independent or group study, for fourth-year students to explore a particular project, in consultation with a Faculty supervisor. May include directed reading, written assignments, tutorials, laboratory or field work. Prerequisite(s): permission of the Institute. Students normally may not offer more than 1.0 credit of Directed Special Studies in their program.

ENSC 4906 [1.0 credit] Honours Research Project

An independent investigation into an aspect of environmental science supervised by a member of the faculty. Approval of the topic and the research schedule must be obtained from the project supervisor and the course coordinator before the last date for registration. Prerequisite(s): fourth-year standing in the Honours Environmental Science program, a major CGPA 8.0 and permission of the Institute. independent study

Summer session: some of the courses listed in this Calendar are offered during the summer. Hours and scheduling for summer session courses will differ significantly from those reported in the fall/winter Calendar. To determine the scheduling and hours for summer session classes, consult the class schedule at central.carleton.ca

Not all courses listed are offered in a given year. For an up-to-date statement of course offerings for the current session and to determine the term of offering, consult the class schedule at central.carleton.ca