

Environmental Science

Program Requirements

Course Categories

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

Approved Courses Outside the Faculties of Science and Engineering and Design (approved by the Environmental Science Institute)

Approved Environmental Science Electives (approved by the Environmental Science Institute)

Free Electives (see Academic Regulations for the B.Sc.)

Approved Science for Environmental Science

Courses approved by the Institute of Environmental Science include the following that comply with the Academic Regulations for the B.Sc.:

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.

Environmental Science

B.Sc. Honours (20.0 credits)

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

1. 3.0 credits from:	3.0
ENSC 1500 [0.5] Environmental Science Seminar	
ENSC 2000 [0.5] Environmental Science Field Methods	
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 3509 [0.5] Group Research in Environmental Science	
2. 0.5 credit in Approved Environmental Science Electives	0.5
3. 1.0 credit in:	1.0
ENSC 4906 [1.0] Honours Research Project	
or	
ENSC 4901 [0.5] Directed Projects	
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	
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. 1.0 credit in Approved Science for Environmental Science at the 4000-level excluding:	1.0
ENSC 4001 [0.5] Environmental Science Practicum	
6. 1.5 credits in Approved Science for Environmental Science	1.5
7. 2.0 credits in Approved Environmental Science Electives	2.0
B. Credits Not Included 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:	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. 0.5 credit from:	0.5
BIOL 2107 [0.5] Fundamentals of Genetics	
or BIOL 2201 [0.5] Cell Biology and Biochemistry	
13. 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	
14. 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	
15. 1.5 credits in approved courses outside the faculties of Science and Engineering and Design (may include NSCI 1000)	1.5
16. 1.0 credit in free electives.	1.0
Total Credits	20.0

Environmental Science with Concentration in Ecology, Biodiversity and Conservation B.Sc. Honours (20.0 credits)

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

1. 3.0 credits in:	3.0
ENSC 1500 [0.5] Environmental Science Seminar	
ENSC 2000 [0.5] Environmental Science Field Methods	
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 3509 [0.5] Group Research in Environmental Science	
2. 0.5 credit in 3000 level Approved Environmental Science Electives	0.5
3. 1.0 credit in:	1.0
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	
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. 0.5 credit in Approved Science for Environmental Science at the 4000-level, excluding:	0.5
ENSC 4001 [0.5] Environmental Science Practicum	
6. 4.0 credits in:	4.0
a. 1.5 credit in:	
BIOL 2001 [0.5] Animals: Form and Function	
BIOL 2002 [0.5] Plants: Form and Function	
BIOL 2201 [0.5] Cell Biology and Biochemistry	
b. 0.5 credit from:	
BIOL 2303 [0.5] Microbiology	
BIOL 3004 [0.5] Insect Diversity	
BIOL 3102 [0.5] Mycology	
BIOL 3205 [0.5] Plant Biochemistry and Physiology	
c. 2.0 credits in a focus:	
Ecology focus:	
i) 0.5 credit in:	
BIOL 3604 [0.5] Analysis of Ecological Relationships	
ii) 1.0 credit from:	
BIOL 3601 [0.5] Ecosystems and Environmental Change	

BIOL 3602 [0.5] Conservation Biology	
BIOL 3605 [0.5] Field Course I	
BIOL 3606 [0.5] Field Course II	
iii) 0.5 credit BIOL at the 4000-level	
or	
Microbiology/genetics focus:	
i) 1.0 credit from:	
BIOL 3104 [0.5] Molecular Genetics	
BIOL 4103 [0.5] Population Genetics	
ii) 0.5 credit from:	
BIOL 2303 [0.5] Microbiology	
BIOL 3102 [0.5] Mycology	
BIOL 3303 [0.5] Experimental Microbiology	
iii) 0.5 credit BIOL at the 4000-level	
B. Credits Not Included 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	
GEOG 2013 [0.5] Weather and Water	
ERTH 1006 [0.5] Exploring Planet Earth	
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. 0.5 credit in:	0.5
BIOL 2107 [0.5] Fundamentals of Genetics	
13. 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	
14. 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	
15. 1.5 credits in approved courses outside the faculties of Science and Engineering and Design (may include NSCI 1000)	1.5
16. 1.0 credit in free electives.	1.0
Total Credits	20.0

Environmental Science with Concentration in Chemistry B.Sc. Honours (20.0 credits)

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

1. 3.0 credits in:	3.0
ENSC 1500 [0.5] Environmental Science Seminar	
ENSC 2000 [0.5] Environmental Science Field Methods	
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 3509 [0.5]	Group Research in Environmental Science	
2. 0.5 credit in	3000 level Approved Environmental Science Electives	0.5
3. 1.0 credit in:		1.0
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	
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	
ii) 0.5 credit in CHEM at the 4000-level		
7. 0.5 credit in:		0.5
CHEM 4800 [0.5]	Atmospheric Chemistry	
B. Credits not included in the Major CGPA (8.5 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. 0.5 credit from:		0.5
BIOL 2107 [0.5]	Fundamentals of Genetics	
or BIOL 2201 [0.5]	Cell Biology and Biochemistry	
13. 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	
14. 1.5 credits in	approved courses outside the faculties of Science and Engineering and Design (may include NSCI 1000)	1.5
15. 0.5 credit in	free elective	0.5
Total Credits		20.0

Environmental Science with Concentration in Earth Sciences		
B.Sc. Honours (20.0 credits)		
A. Credits Included in the Major CGPA (11.0 credits)		
1. 4.0 credits from:		4.0
ENSC 1500 [0.5]	Environmental Science Seminar	
ENSC 2000 [0.5]	Environmental Science Field Methods	
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 3509 [0.5]	Group Research in Environmental Science	
ENSC 4906 [1.0]	Honours Research Project	
Or		
ENSC 4901	and 0.5 credit 4000-level Approved Science for Environmental Science	
2. 1.5 credits in:		1.5
BIOL 2600 [0.5]	Introduction to Ecology	
CHEM 2800 [0.5]	Foundations for Environmental Chemistry	
GEOG 3108 [0.5]	Soil Properties	
3. 4.0 credits in:		4.0
ERTH 2102 [0.5]	Mineralogy to Petrology	
ERTH 2104 [0.5]	Igneous Systems, Geochemistry and Processes	
ERTH 2314 [0.5]	Sedimentation and Stratigraphy	
ERTH 2406 [0.5]	Geology and Map Interpretation	
ERTH 3003 [0.5]	Geochemistry and Geochronology	
ERTH 3205 [0.5]	Physical Hydrogeology	
ERTH 3405 [0.5]	Geophysical Methods	
ERTH 3806 [0.5]	Structural Geology	
4. 0.5 credit from:		0.5

ERTH 3203 [0.5]	Applied Sedimentology	
ERTH 3206 [0.5]	Oceanography: Its Modern and Geologic Records	
5. 1.0 credit in	ERTH at the 4000-level	1.0
B. Credits Not Included in the Major CGPA (9.0 credits)		
6. 1.5 credits in:		1.5
MATH 1007 [0.5]	Elementary Calculus I	
STAT 2507 [0.5]	Introduction to Statistical Modeling I	
MATH 1107 [0.5]	Linear Algebra I	
7. 3.5 credits in:		3.5
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	
PHYS 1007 [0.5]	Elementary University Physics I	
8. 1.5 credits from:		1.5
CHEM 2302 [0.5]	Analytical Chemistry I	
ERTH 2402 [0.5]	Climate Change: An Earth Sciences Perspective	
ERTH 2403 [0.5]	Introduction to Oceanography	
ERTH 2802 [0.5]	Field Geology I	
ERTH 2312 [0.5]	Paleontology	
ERTH 3203 [0.5]	Applied Sedimentology	
ERTH 3204 [0.5]	Mineral Deposits	
ERTH 3206 [0.5]	Oceanography: Its Modern and Geologic Records	
ERTH 3207 [0.5]	Metamorphic Petrology and Processes	
ENSC 3906 [0.5]	Project Planning for Environmental Research	
GEOG 3103 [0.5]	Watershed Hydrology	
GEOG 3104 [0.5]	Principles of Biogeography	
GEOG 3105 [0.5]	Climate and Atmospheric Change	
9. 1.5 credits in approved courses outside the faculties of Science and Engineering and Design (may include NSCI 1000), including:		1.5
PHIL 2380 [0.5]	Introduction to Environmental Ethics	
11. 1.0 credit in:		1.0
GEOM 2007 [0.5]	Geographic Information Systems (11. 1.0 credit in)	
GEOM 3002 [0.5]	Air Photo Interpretation and Remote Sensing	
Total Credits		20.0

Environmental Science B.Sc. Major (20.0 credits)

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

1. 3.5 credits in:		3.5
ENSC 1500 [0.5]	Environmental Science Seminar	
ENSC 2000 [0.5]	Environmental Science Field Methods	
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 3509 [0.5]	Group Research in Environmental Science	
ENSC 4700 [0.5]	Topics in 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	
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. 1.0 credit in	Approved Science for Environmental Science at the 4000-level excluding:	1.0
ENSC 4001 [0.5]	Environmental Science Practicum	
6. 1.5 credits in	Approved Science for Environmental Science	1.5
7. 2.0 credits in	Approved Environmental Science Electives	2.0
B. Credits Not Included in the Major CGPA (10.0 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:		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. 0.5 credit from:		0.5
BIOL 2107 [0.5]	Fundamentals of Genetics	
or BIOL 2201 [0.5]	Cell Biology and Biochemistry	
13. 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	
14. 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	
15. 1.5 credits in	approved courses outside the faculties of Science and Engineering and Design (may include NSCI 1000)	1.5

16. 2.0 credits in free electives. 2.0

Total Credits 20.0

Environmental Science (ENSC) Courses

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 Methods

A field-based course introducing students to practical methods in environmental science. Topics will include earth sciences, geography, biology, and chemistry related aspects of environmental sciences and will focus on quantitative techniques to assess environmental impacts and management. A supplementary fee will apply.

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

Field trips, lectures and workshops, seven hours per week (delivered on a single day and on up to two mandatory weekend trips).

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 study design, data collection and assembly, database manipulation, data analysis, and critically evaluating scientific information.

Prerequisite(s): STAT 2507 or permission from the Institute.

Lectures and seminars three hours a week.

ENSC 3000 [0.5 credit]

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 3106 [0.5 credit]

Aquatic science and Management

Fundamentals of aquatic science. The physical, chemical, and biotic aspects of lake, river, and estuary systems including human impacts, management and conservation. Also listed as GEOG 3106.

Prerequisite(s): third-year standing and a second year science or engineering course.

Workshop four hours per week.

ENSC 3509 [0.5 credit]

Group Research in Environmental Science

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]

Project Planning for Environmental Research

Independent or group study on the fundamentals of scientific investigation, which may include use of literature, learning of research techniques, and development of a research proposal, in consultation with a Faculty supervisor. May include directed reading, written assignments, tutorials, laboratory or field work.

Prerequisite(s): Good standing in third year Environmental Science and permission of the Institute.

ENSC 3999 [0.0 credit]

Co-operative Work Term

Practical experience for students enrolled in the Co-operative 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. Four-month 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 4002 [0.5 credit]**Environmental Decisions**

The regulatory and scientific aspects of environmental management decisions, including risk analysis and mitigation, managing chronic and acute environmental impacts, and conservation of species and landscapes.

Students will use real-world case studies to learn traditional and cutting-edge decision-making tools.

Prerequisite(s): third-year standing in any B.Sc. program or permission of the Institute.

Workshops three hours per week.

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