

Environmental Studies

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.A. students (see *Academic Regulations for the Bachelor of Arts Degree*). Environmental Studies students are exempt from the Breadth requirements.

Students should consult with the Department when planning their program and selecting courses. Suggested thematic groupings of approved electives are outlined on the departmental website. Some of the Environmental Studies Approved Electives have prerequisites, which are not explicitly included in the program. Students should plan to obtain all necessary prerequisites or waivers for courses selected for this program.

Program Requirements

Environmental Studies

B.A. Honours (20.0 credits)

A. Credits Included in the Major CGPA (12.0 credits)

1. 1.0 credit from:	1.0
ISCI 1001 [0.5]	Introduction to the Environment
ENST 1020 [0.5]	People, Places and Environments
GEOG 1010 [0.5]	Global Environmental Systems
2. 1.0 credit from:	1.0
ENST 1001 [1.0]	Introduction to Environmental Studies
FYSM 1100 [1.0]	Sustainable Environments
3. 2.0 credits in:	2.0
ENST 2000 [0.5]	Nature, Environment and Society: Theoretical Perspectives
ENST 2001 [0.5]	Sustainable Futures: Environmental Challenges and Solutions
ISCI 2000 [0.5]	Natural Laws
ISCI 2002 [0.5]	Human Impacts on the Environment
4. 1.0 credit in:	1.0
ENST 2005 [0.5]	Introduction to Qualitative Research
ENST 2006 [0.5]	Introduction to Quantitative Research
5. 1.0 credit in:	1.0
ENST 3000 [0.5]	Environmental Studies Colloquium
ENST 3022 [0.5]	Environmental and Natural Resources
6. 0.5 credit in:	0.5
PHIL 2380 [0.5]	Introduction to Environmental Ethics
7. 1.0 credit from:	1.0
ECON 3804 [0.5]	Environmental Economics

GEOG 3206 [0.5]	Health, Environment, and Society
GEOG 3209 [0.5]	Sustainability and Environment in the South
GEOG 3501 [0.5]	Geographies of the Canadian North
HUMR 3503 [0.5]	Global Environmental Justice
LAWS 3800 [0.5]	Law of Environmental Quality
PHIL 3380 [0.5]	Environments, Technology and Values
PSCI 3801 [0.5]	Environmental Politics
RELI 3710 [0.5]	Religions and the Environment
TSES 3002 [0.5]	Energy and Sustainability
8. 0.5 credit from:	0.5
ENST 3900 [0.5]	Intensive Field Course
GEOG 3030 [0.5]	Regional Field Excursion
9. 0.5 credit in:	0.5
ENST 4000 [0.5]	Environmental Studies Seminar
10. 0.5 credit from:	0.5
ENST 4006 [0.5]	Environmental Policy Analysis
GEOG 4022 [0.5]	Seminar in People, Resources and Environmental Change
GEOG 4023 [0.5]	Seminar in Sustainable Urban Environments
GEOG 4004 [0.5]	Environmental Impact Assessment
GEOG 4050 [0.5]	Environmental and Geographic Education
11. 1.0 credit in:	1.0
a) Thesis stream	
1.0 credit from:	
ENST 4906 [1.0]	Honours Research Project
ENST 4907 [1.0]	Honours Research Essay
or	
b) Course stream	
1.0 credit in Approved Environmental Studies Electives at the 4000-level	
12. 0.5 credit from:	0.5
ENST 4001 [0.5]	Environmental Studies Practicum I
ENST 4002 [0.5]	Environmental Studies Practicum II
13. 1.0 credit in Approved Environmental Studies Electives at the 3000-level or above	1.0
14. 0.5 credits in Approved Environmental Studies Electives	0.5
B. Credits Not Included in the Major CGPA (8.0 credits)	
15. 8.0 credits in free electives	8.0
Total Credits	20.0

Note: It may be necessary to use some of the free elective credits to fulfill prerequisite requirements for courses in the Major.

Environmental Studies

B.A. General (15.0 credits)

A. Credits Included in the Major CGPA (8.0 credits)

1. 1.0 credits from:	1.0
ISCI 1001 [0.5]	Introduction to the Environment
GEOG 1010 [0.5]	Global Environmental Systems
GEOG 1020 [0.5]	People, Places and Environments
2. 1.0 credit from:	1.0
ENST 1001 [1.0]	Introduction to Environmental Studies

FYSM 1100 [1.0]	Sustainable Environments	
3. 2.0 credit in:		2.0
ENST 2000 [0.5]	Nature, Environment and Society: Theoretical Perspectives	
ENST 2001 [0.5]	Sustainable Futures: Environmental Challenges and Solutions	
ISCI 2000 [0.5]	Natural Laws	
ISCI 2002 [0.5]	Human Impacts on the Environment	
4. 1.0 credit from:		1.0
ENST 2005 [0.5]	Introduction to Qualitative Research	
ENST 2006 [0.5]	Introduction to Quantitative Research	
GEOM 1004 [0.5]	Maps, Satellites and the Geospatial Revolution	
5. 0.5 credit in:		0.5
PHIL 2380 [0.5]	Introduction to Environmental Ethics	
6. 1.0 credit in:		1.0
ENST 3000 [0.5]	Environmental Studies Colloquium	
ENST 3022 [0.5]	Environmental and Natural Resources	
7. 0.5 credit in	Approved Environmental Studies Electives	0.5
8. 1.0 credit in	Approved Environmental Studies Electives at the 3000-level or above	1.0
B. Credits Not Included in the Major CGPA (7.0 credits)		
9. 7.0 credits in	free electives.	7.0
Total Credits		15.0

APPROVED ENVIRONMENTAL STUDIES ELECTIVES

Please note that the Approved Electives below may have prerequisite requirements or could be cross-listed.

Architecture

ARCU 3902 [0.5]	Urban Studies (Section A)
ARCC 3004 [0.5]	Workshop: Energy and Form
ARCC 4103 [0.5]	Energy and Form
ARCH 4105 [0.5]	Theories of Landscape Design

Biology

BIOL 1010 [0.5]	Biotechnology and Society
BIOL 1902 [0.5]	Natural History
BIOL 2600 [0.5]	Introduction to Ecology
BIOL 2903 [0.5]	Natural History of Ontario
BIOL 3601 [0.5]	Ecosystems and Environmental Change
BIOL 3602 [0.5]	Conservation Biology

Business

BUSI 3119 [0.5]	Business and Environmental Sustainability
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Earth Sciences

ERTH 2402 [0.5]	Climate Change: An Earth Sciences Perspective
ERTH 2415 [0.5]	Natural Disasters
ERTH 2403 [0.5]	Introduction to Oceanography
ERTH 4303 [0.5]	Resources of the Earth

Economics

ECON 3803 [0.5]	The Economics of Natural Resources
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ECON 3804 [0.5]	Environmental Economics
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Environmental Science

ENSC 2001 [0.5]	Earth Resources and Natural Hazards: Environmental Impacts
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Environmental Studies

ENST 1020 [0.5]	People, Places and Environments
ENST 2005 [0.5]	Introduction to Qualitative Research
ENST 2006 [0.5]	Introduction to Quantitative Research
ENST 2500 [0.5]	Climate Change: Social Science Perspectives
ENST 3900 [0.5]	Intensive Field Course
ENST 4001 [0.5]	Environmental Studies Practicum I
ENST 4002 [0.5]	Environmental Studies Practicum II
ENST 4005 [0.5]	Directed Studies in Environmental Studies
ENST 4006 [0.5]	Environmental Policy Analysis
ENST 4400 [0.5]	Field Studies

European and Eurasian Studies

EURR 4005 [0.5]	Environmental Problems and Politics in East/Central Europe and Eurasia
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First Year Seminars

FYSM 1610 [1.0]	Understanding Environmental Discourse
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Geomatics

GEOM 1004 [0.5]	Maps, Satellites and the Geospatial Revolution
GEOM 2007 [0.5]	Geographic Information Systems
GEOM 3002 [0.5]	Air Photo Interpretation and Remote Sensing
GEOM 3005 [0.5]	Geospatial Analysis
GEOM 4003 [0.5]	Remote Sensing of the Environment
GEOM 4009 [0.5]	Applications in Geographic Information Systems

Geography

GEOG 1010 [0.5]	Global Environmental Systems
GEOG 1020 [0.5]	People, Places and Environments
GEOG 2013 [0.5]	Weather and Water
GEOG 2014 [0.5]	The Earth's Surface
GEOG 2020 [0.5]	Physical Environments of Canada
GEOG 2200 [0.5]	Global Connections
GEOG 2300 [0.5]	Space, Place and Culture
GEOG 2600 [0.5]	Geography Behind the Headlines
GEOG 3001 [0.5]	Doing Qualitative Research
GEOG 3003 [0.5]	Quantitative Geography
GEOG 3010 [0.5]	Field Methods in Physical Geography
GEOG 3021 [0.5]	Geographies of Culture and Identity
GEOG 3022 [0.5]	Environmental and Natural Resources
GEOG 3023 [0.5]	Cities in a Global World
GEOG 3024 [0.5]	Understanding Globalization
GEOG 3030 [0.5]	Regional Field Excursion
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
GEOG 3206 [0.5]	Health, Environment, and Society
GEOG 3209 [0.5]	Sustainability and Environment in the South
GEOG 3404 [0.5]	Geographies of Economic Development
GEOG 3501 [0.5]	Geographies of the Canadian North
GEOG 3700 [0.5]	Population Geography
GEOG 4004 [0.5]	Environmental Impact Assessment
GEOG 4022 [0.5]	Seminar in People, Resources and Environmental Change
GEOG 4023 [0.5]	Seminar in Sustainable Urban Environments
GEOG 4050 [0.5]	Environmental and Geographic Education
GEOG 4303 [0.5]	Urban Planning
History	
HIST 2310 [0.5]	Canadian Environmental History to 1920
HIST 2311 [0.5]	Canadian Environmental History from 1890
HIST 3209 [0.5]	Canadian Urban History
HIST 3310 [0.5]	Animals in Human History
Human Rights	
HUMR 3503 [0.5]	Global Environmental Justice
Interdisciplinary Science	
ISCI 1001 [0.5]	Introduction to the Environment
Law	
LAWS 3005 [0.5]	Law and Regulation
LAWS 3800 [0.5]	Law of Environmental Quality
LAWS 4800 [0.5]	Environment and Social Justice
Philosophy	
PHIL 3350 [0.5]	Philosophy, Ethics, and Public Affairs
PHIL 3380 [0.5]	Environments, Technology and Values
Political Science	
PSCI 2003 [0.5]	Canadian Political Institutions
PSCI 2602 [0.5]	International Relations: Global Political Economy
PSCI 3801 [0.5]	Environmental Politics
PSCI 4808 [0.5]	Global Environmental Politics
PSCI 4818 [0.5]	The Environmental State
Religion	
RELI 3710 [0.5]	Religions and the Environment
Sociology and Anthropology	
ANTH 2035 [0.5]	Technology, Culture and Society
or SOCI 2035 [0.5]	Technology, Culture and Society
ANTH 2850 [0.5]	Development and Underdevelopment
SOCI 3038 [0.5]	Studies in Urban Sociology
ANTH 3355 [0.5]	Anthropology and the Environment
SOCI 3805 [0.5]	Studies in Population
ANTH 4036 [0.5]	Science and Technology Studies: Selected Topics
or SOCI 4036 [0.5]	Science and Technology Studies: Selected Topics
Technology, Society, Environment	
TSES 2006 [0.5]	Ecology and Culture

TSES 3001 [0.5]	Technology-Society Interactions
TSES 3002 [0.5]	Energy and Sustainability
TSES 4001 [0.5]	Technology and Society: Risk
TSES 4002 [0.5]	Technology and Society: Forecasting
TSES 4003 [0.5]	Technology and Society: Innovation
TSES 4007 [0.5]	Product Life Cycle Analysis
TSES 4008 [0.5]	Environmentally Harmonious Lifestyles

Environmental Studies (ENST) Courses

Department of Geography and Environmental Studies

Faculty of Arts and Social Sciences

ENST 1001 [1.0 credit]

Introduction to Environmental Studies

Sustainability requires broadened perspectives on the Earth's natural systems. Geographic and geomatics perspectives help us examine physical and biological environments as the basis of human societies. Includes: landscape interpretation, resources, hazards, inferring meaning from data, and predicting potential impacts of/on human actions.

Precludes additional credit for FYSM 1100.

Lecture two hours and workshops/tutorials two hours weekly.

ENST 1020 [0.5 credit]

People, Places and Environments

Introduction to human geography. Examination of relationships between people, communities, society and the natural environment at local to global scales. Population change, cultural patterns, and historical, economic, political and environmental forces that shape human activity and experiences from place to place. Also listed as GEOG 1020.

Lectures two hours a week and tutorial one hour a week.

ENST 2000 [0.5 credit]

Nature, Environment and Society: Theoretical Perspectives

Examination of the shifting understandings of nature, the environment, and nature-society relations. Topics include nature as a concept, people's relationships to the environment across the globe, environmental movements and institutions, narratives of environmental change, and political ecology approaches to understanding and combating environmental degradation.

Prerequisite(s): second-year standing in the Environmental Studies program or permission of the Department.

Lectures three hours a week.

ENST 2001 [0.5 credit]**Sustainable Futures: Environmental Challenges and Solutions**

Individual and collective responses to pressing environmental problems. Innovative ways in which the environment can be protected and restored, taking into consideration socioeconomic, political and cultural factors. Topics include environmental lifestyles, sustainable communities, food systems, environmental design, and political activism.

Prerequisite(s): second-year standing in the Environmental Studies program or permission of the Department.

Lectures, seminars and field work three hours a week.

ENST 2005 [0.5 credit]**Introduction to Qualitative Research**

Introduction to the research process, from generating questions through to reporting results. Topics include intensive and extensive research approaches; the use of surveys, interviews and other data collection methods; the analysis of qualitative information; and the ethical dimensions of doing research with people and communities.

Also listed as GEOG 2005.

Prerequisite(s): 1.0 credit in GEOG or ENST at the 1000-level and second-year standing, or permission of the Department.

Lectures two hours a week, workshop two hours a week.

ENST 2006 [0.5 credit]**Introduction to Quantitative Research**

Introduction to solving problems using descriptive and inferential statistical methods. Graphical and numerical tools to describe distributions. Probability, sampling and estimates, and hypothesis testing. Fundamentals of spatial statistics and analysis.

Also listed as GEOG 2006.

Precludes additional credit for STAT 2507, STAT 2606, ECON 2200[1.0], ECON 2201, ECON 2202, PSYC 2002, PSCI 2702.

Lectures two hours a week, laboratory two hours a week.

ENST 2500 [0.5 credit]**Climate Change: Social Science Perspectives**

An introduction to climate change, with an emphasis on human dimensions. Topics include anthropogenic greenhouse gas emissions, regional variations in climate change and their consequences, human vulnerability and adaptation to environmental change, and climate change politics and policies at a variety of geographic scales.

Also listed as GEOG 2500.

Prerequisite(s): ENST 1020 or GEOG 1020, or second-year standing.

Lectures three hours a week.

ENST 3000 [0.5 credit]**Environmental Studies Colloquium**

Interactions among complex natural systems, social values and attitudes and economic, political and legal concerns are explored through invited speakers from various disciplines and agencies addressing specific environmental issues.

Prerequisite(s): third-year standing in Environmental Studies or permission of Environmental Studies.

Lecture and discussion three hours a week.

ENST 3022 [0.5 credit]**Environmental and Natural Resources**

Exploration of complexity, dynamics, uncertainty and equity issues underpinning environmental and resource issues; review and appraisal of selected contemporary methods to assess and manage environmental and natural resources.

Also listed as GEOG 3022.

Prerequisite(s): third-year standing in Geography or Environmental Studies or permission of the Department.

Lecture three hours a week.

ENST 3900 [0.5 credit]**Intensive Field Course**

Training in fields of research or practice related to careers in Environmental Studies, linking human values and environment and may include engaging in action learning in environmental education, environmental auditing, environmental assessment, watershed protection or living resource inventories. Topics may change from year to year.

Precludes additional credit for ENST 2900 [no longer offered] and GEOG 3000.

Prerequisite(s): third-year standing or higher in Environmental Studies, and permission of the Environmental Studies Coordinator.

Normally consists of a multi-day field excursion in the Ottawa region. A supplementary charge may apply. Consult the department regarding course details.

ENST 4000 [0.5 credit]**Environmental Studies Seminar**

How societal institutions respond to environmental concerns, how various stakeholders understand the environment and how environmental priorities may be implemented in social, political and economic decision-making. Interdisciplinary case studies are used.

Prerequisite(s): registration is restricted to students eligible for fourth-year standing in the B.A. (Environmental Studies) Honours program.

Seminar three hours per week.

ENST 4001 [0.5 credit]**Environmental Studies Practicum I**

External agency setting provides the basis for translating academic training into practical involvement with environmental issues. Observation and involvement in issues and research methods used by professional environmental practitioners.

Prerequisite(s): registration is restricted to students eligible for fourth-year standing in the B.A. (Environmental Studies) Honours program, and permission of the Environmental Studies Co-ordinator.

ENST 4002 [0.5 credit]**Environmental Studies Practicum II**

External agency setting provides the basis for translating academic training into practical involvement with environmental issues. Observation and involvement in issues and research methods used by environmental practitioners.

Prerequisite(s): restricted to students in the fourth year of the Environmental Studies Honours program, and permission of the Environmental Studies Co-ordinator.

ENST 4005 [0.5 credit]**Directed Studies in Environmental Studies**

Students pursue their interest in a selected theme in environmental studies on a tutorial basis with a faculty member.

Also listed as GEOG 4005.

Prerequisite(s): permission of the Department.

Hours to be arranged.

ENST 4006 [0.5 credit]**Environmental Policy Analysis**

Critical examination of the creation, implementation and effectiveness of government policies related to environmental issues. Emphasis on perspectives, actors, institutions and social and economic relationships affecting policy responses to these issues, and on tools for analyzing the implications of specific policy choices.

Prerequisite(s): fourth-year Honours standing in Environmental Studies, Geography, or permission of the Department.

Seminar three hours per week.

ENST 4400 [0.5 credit]**Field Studies**

Field observation and methodology in a selected region, special topic or contemporary problem; on an individual or group basis.

Also listed as GEOG 4000.

Prerequisite(s): permission of the Department.

Hours to be arranged.

ENST 4906 [1.0 credit]**Honours Research Project**

An independent investigation into a select aspect of environmental studies, supervised by a faculty member. Possible outcomes might include: workshops, audio-visual productions, lay publications, and field projects accompanied by an essay demonstrating the student's capacity to critically reflect on the research project.

Precludes additional credit for GEOG 4904/GEOM 4904 (no longer offered), GEOG 4909/GEOM 4909, GEOG 4906, ENST 4907.

Prerequisite(s): fourth-year Honours standing in Environmental Studies, a minimum CGPA of 9.00 in the major or permission of the Department, and an approved research topic and adviser.

Hours to be arranged with faculty adviser.

ENST 4907 [1.0 credit]**Honours Research Essay**

Interdisciplinary research essay on an environmental issue, carried out in consultation with a faculty supervisor. The student must consult with the undergraduate student advisor in selecting a project and a supervisor.

Precludes additional credit for ENST 4906, GEOG 4909/GEOM 4909, GEOG 4904/GEOM 4904 (no longer offered), and GEOG 4906.

Prerequisite(s): fourth-year Honours standing in Environmental Studies, a minimum CGPA of 9.00 in the major or permission of the Department, and an approved research topic and adviser.

Hours to be arranged with faculty adviser.

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