

Institute of the Environment Graduate Program Optional Courses

Optional Courses : 2021-2022



Elective courses – Environmental Sustainability

Please find below a list of elective courses approved by the Institute of the Environment for the Collaborative Specialization in Environmental Sustainability at the master's level (cMES), the Master's of Science in Environmental Sustainability (MES), and the PhD in Environmental Sustainability (PhDES).

- Students in the cMES, in the Research Paper option, must take one 3 unit optional course in Environmental Sustainability
- Students in the MES and PhDES must take one 3 unit optional course in environmental sustainability or an advanced research methods course.

NOTE: Some of the optional courses below are 1.5 units. You must fulfil two 1.5 unit courses or one 3 unit course to fulfil your program requirements.

Registering in courses outside your main program typically requires the approval of your department, as well as the approval of the instructor. All optional courses should be approved by your supervisor. These approvals are necessary to ensure that spaces are available, that you have the required background to succeed in the course, and that the course will help advance your knowledge or research in environmental sustainability.

If you are aware of additional courses that relate to environmental sustainability and that might be better tailored to your academic goals, don't hesitate to ask us whether it might be approved as an optional course. We suggest that you submit the course syllabus, the instructor's consent and a short request explaining how the course will contribute to your academic goals. The program's director will be happy to consider it.

Fall 2021

ECO 6151A - Economics of the Environment (3 units)

The environment as natural capital; environmental valuation techniques; elements of environmental income accounting; sustainable development theories and practice; institutional questions and policy issues. This course is equivalent to ECON 5804 at Carleton University.

Winter 2022

DVM 6102A - Livelihoods, Resources and Sustainability (3 units) or DVM 6502A Modes de vie, ressources et durabilité (3 crédits)

Interaction between society and nature. Consideration of how power shapes the use of resources such as land, water, food, or energy, and on how livelihoods adapt to environmental change in

various rural and urban contexts. Theoretical lenses include commons theory, social ecological resilience, political ecology, and political economy.

Relation entre les sociétés et la nature. Une attention particulière est accordée à la manière dont les relations de pouvoir orientent et déterminent l'utilisation de ressources comme la terre, l'eau, la nourriture et l'énergie ainsi qu'à la manière dont les moyens d'existence s'adaptent aux changements environnementaux dans des contextes ruraux et urbains variés. Les diverses approches conceptuelles incluent la théorie des biens publics, la résilience sociale et écologique, l'écologie politique et l'économie politique.

ECO 6134 – Topics in Environmental and Resource Economics (3 units)

Topics may include international dimensions of environmental regulation, including treaties, competitiveness, and the effects of trade liberalization; development issues, including fiscal sustainability, Dutch disease, the resource curse, and population growth; resource topics, including optimal taxation, green national accounts, sustainability theory, and scarcity of extractive resources. This course is equivalent to ECON 5805 at Carleton University.

ISP 5101 - Decision at the Interface of Science and Policy (3 units)

This course explores a number of critical issues in the design and implementation of science (or, more generally, evidence)-based policy. Topics will include: the nature of scientific evidence; who has standing in the provisioning of scientific evidence; the science and non-science of risk assessment; ethical dimensions of policy design and implementation; the role of science in policy design and implementation; the policy making process; and science policy performance evaluation.

Waiting List – Syllabus Required

If any of the courses below interest you, please contact the professor to obtain:

- a) the course syllabus, and
- b) the professor's approval to take the course.

Send both items above to envirograd@uottawa.ca along with a rationale explaining how the course will advance your research or your academic goals. The program director will review your request and inform you whether you may take the course to fulfill your program requirements.

Fall 2021

EVG 5801 Seminar for Doctoral Candidates in Environmental Engineering (3 units)

This course is equivalent to ENVE 7800 at Carleton University

Topic : Research

EVG 6300F Special Topics in Environmental Engineering (3 units)

Topic: Water Treatment in Northern Communities

EVG 7002 Topics in Environmental Engineering (3 units)

This course is equivalent to ENVE 5702 at Carleton University.

Topic: Air Pollut & Emissions Control

EVG 7003 Topics in Environmental Engineering (3 units)

This course is equivalent to ENVE 5703 at Carleton University.

Topic: Contaminant Hydrogeology

EVG 7004 Topics in Environmental Engineering (3 units)

This course is equivalent to ENVE 5704 at Carleton University.

Topic: Lighting / Daylighting

EVG 7005IA Topics in Environmental Engineering (3 units)

This course is equivalent to ENVE 5705 at Carleton University.

Topic: Resili.infras.&sustain urb.fut

EVG 7005IB Topics in Environmental Engineering (3 units)

This course is equivalent to ENVE 5705 at Carleton University.

Topic: Enviro imp. of energy res.deve

EVD 5113A Foundations of Environmental Policy (3 units)

Study of the key political and administrative factors affecting the formulation and implementation of environmental policy, including democratic institutions, various methods for citizen and stakeholder engagement and their influence on the decision-making process in government, public opinion and the framing of policy problems, values and the use of scientific evidence in policy-making, lobbying and the role of interest representation, federalism and multi-level environmental governance, and the international governance of environmental problems. Case studies will place Canada in a comparative context and explore the importance of political factors across areas of environmental policy.

*Required course for the Master of Science in Environmental Sustainability. Possible optional course for the Specialization in Environmental Sustainability and the PhD in Environmental Sustainability.

EVD 5114A Professional Skills for Environmental Sustainability (1.5 units)

Oral and written communications skills, including presenting to parliamentary committees, preparing memos to cabinet, writing editorials, doing media interviews, and producing interdisciplinary public policy reports. Project and process management skills, including multi-stakeholder processes.

*Required course for the Master of Science in Environmental Sustainability. Possible optional course for the Specialization in Environmental Sustainability.

EVD 5121A Foundations of Environmental Science (3 units)

Provides students with a thematic understanding of the current state of environmental science. Major themes include: the set of environmental issues that are currently of major concern in Canada and abroad; the range of scientific approaches currently employed to understand and predict the effects of human activities on ecosystems; the nature of environmental science evidence; and how environmental sustainability is characterized from the perspective of environmental science.

*Required course for the Master of Science in Environmental Sustainability. Possible optional course for the Specialization in Environmental Sustainability and the PhD in Environmental Sustainability.

EVD 5122A Foundations of Environmental Economics (3 units)

Key elements of economics including formal models and their underlying assumptions as they relate to the development of sustainability policy. Covers concepts such as public goods, market failure, non-market valuation, incentives, welfare economics, regulation, the equity-efficiency trade-off and market-based instruments. The course explains how fundamental economic concepts, particularly their advantages and limitations, are used to analyze issues at the interface of the economy and the environment. Examines renewable (e.g., fisheries, forests) and non-renewable (e.g., oil, gas, minerals) resource management and other topics (e.g., climate change, ozone depletion, cap and trade) in applied environmental economics. Explores the institutions and trade-offs that individuals and governments face in the context of sustainability policy.

*Required course for the Master of Science in Environmental Sustainability. Possible optional course for the Specialization in Environmental Sustainability and the PhD in Environmental Sustainability.

EVD 5124A Foundations of Environmental Law (3 units)

Foundations of environmental law, including theory of sustainability, constitutional division of powers, approaches to regulation of environmental issues, including examples of legal frameworks for different environmental problems, and access to justice.

*Required course for the Master of Science in Environmental Sustainability. Possible optional course for the Specialization in Environmental Sustainability and the PhD in Environmental Sustainability.

Winter 2022

EVD 5100 Seminar in Environmental Sustainability (3 units)

Overview of environmental sustainability issues using climate change as an example. Application of integrated analyses based on concepts in science, law, economics and policy to devise policy

solutions. The debate about the scientific evidence for climate change and international efforts to negotiate an agreement. The economic, political and social dimensions of climate change and measures taken both nationally and internationally to mitigate its effects.

* Required course for the Specialization in Environmental Sustainability. Possible optional course for the Master of Science in Environmental Sustainability and the PhD in Environmental Sustainability.

EVD 5109 Applied Environmental Sustainability (3 units)

Uses an environmental sustainability case study, such as climate change, to learn how to synthesize information about a problem from multiple disciplinary perspectives, to critically evaluate such information using rigorous methodological approaches, and to design and evaluate policy or regulatory solutions.

*Required course for the Master of Science in Environmental Sustainability (Research Paper option). Possible optional course for the Master of Science in Environmental Sustainability (Thesis option), the Specialization in Environmental Sustainability, and the PhD in Environmental Sustainability.

EVD 5123 Evidence Synthesis and Evaluation (3 units)

Reviews different understandings of what constitutes research, both as it pertains to the production of evidence and to the evaluation of existing evidence relating to policy, to regulatory and statutory interventions and to identifying evidence gaps. Students learn research methodologies to design research to maximize its evidentiary value (given existing constraints); they will also learn to synthesize and assess the evidentiary value of existing research.

Course Component: Seminar

*Required course for the Master of Science in Environmental Sustainability (Research Paper option). Possible optional course for the Master of Science in Environmental Sustainability (Thesis option), the Specialization in Environmental Sustainability and the PhD in Environmental Sustainability.

EVD 5111 Capstone Seminar in Environmental Sustainability (3 units)

Involves partnering with organization(s) working on a sustainability issue. Students work in interdisciplinary teams to identify the scientific, economic, legal and social dimensions of a particular environmental problem, evaluate a set of candidate solutions, and recommend an approach.

Course Component: Seminar

*Required course for the Master of Science in Environmental Sustainability (Research Paper option). Possible optional course for the Master of Science in Environmental Sustainability (Thesis

option), the Specialization in Environmental Sustainability and the PhD in Environmental Sustainability.

ECO 6134I Topics in Environmental and Resource Economics (3 units)

Topics may include international dimensions of environmental regulation, including treaties, competitiveness, and the effects of trade liberalization; development issues, including fiscal sustainability, Dutch disease, the resource curse, and population growth; resource topics, including optimal taxation, green national accounts, sustainability theory, and scarcity of extractive resources. This course is equivalent to ECON 5805 at Carleton University.

EDU 6106 Science, Technology, Society and Environment (3 units)

(Teaching, Learning and Evaluation) Critical examination of the social impact of science and technology and their educational implications. Study of the roles of ecological and scientific literacies.

EVG 5801S Seminar for Doctoral Candidates in Environmental Engineering (3 units)

This course is equivalent to ENVE 7800 at Carleton University

Topic: Research

* Possible optional course for the PhD in Environmental Sustainability.

EVG 7001IW Topics in Environmental Engineering (3 units)

This course is equivalent to ENVE 5701 at Carleton University.

Topic: Research methods for building energy

EVG 7002IW Topics in Environmental Engineering (3 units)

This course is equivalent to ENVE 5702 at Carleton University

Topic: Energy & resource recovery from waste

CHM 5606I Environmental Chemistry and Toxicology (1.5 units)

Overview of environmental chemistry and toxicology principles including chemical sources, fate, and effects in the environment. Examining organic reactions occurring in abiotic environments and biological systems, and study aspects of toxicant disposition and biotransformation. Emphasis on contemporary problems in human health and the environment. This course is equivalent to CHEM 5606 at Carleton University

SOC 7103 Sociology of the Environment (3 units)

Origins of environmental problems and conflicts; social theories of environmental degradation, controversies and disasters; perspectives on human-nature interactions.

MBA 6295D Seminar in Management I (1.5 units)

The seminars focus on current issues and topics in management.

Topic: Today Global Business Environment-Strategic Market

MBA 6295DV Seminar in Management I (1.5 units)

The seminars focus on current issues and topics in management.

Topic: Today Global Business Environment-Strategic Market

Spring-Summer 2022

EVD 5111 Capstone Seminar in Environmental Sustainability (3units)

Involves partnering with organization(s) working on a sustainability issue. Students work in interdisciplinary teams to identify the scientific, economic, legal and social dimensions of a particular environmental problem, evaluate a set of candidate solutions, and recommend an approach.

Course Component: Seminar