

ORIGINAL COURSE IMPLEMENTATION DATE: REVISED COURSE IMPLEMENTATION DATE: COURSE TO BE REVIEWED (six years after UEC approval): Course outline form version: 28/10/2022 September 1993 September 2024 March 2030

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: GEOG 111		Number of Credits: 3 Course credit policy (105)						
Course Full Title: Environmental Issues and Strategies								
Course Short Title: Environ Issues & Strategies								
Faculty: Faculty of Science Dep			epartment: Planning, Geography and Environmental Studies					
Calendar Description:								
Basic science, traditional ecological knowledge, and other ways of knowing, are used to better understand the influences of human activities on the global and local environments, employing the framework of sustainable development to assess current and emergin strategies that will lead to the reduction of human harm to the natural and built environments. Note: Field trips outside of class time may be required. Please refer to the department website for field trip scheduling information.								
Prerequisites (or NONE):	None.							
Corequisites (if applicable, or NONE):								
Pre/corequisites (if applicable, or NONE):								
Antirequisite Courses (Cannot be taken for additional credit.)			Course	Course Details				
Former course code/number:			Special	Special Topics course: No				
Cross-listed with:			(If yes, the course will be offered under different letter designations representing different topics.)					
Equivalent course(s):				Directed Study course: No				
(If offered in the previous five years, antirequisite course(s) will be				(See <u>policy 207</u> for more information.)				
included in the calendar description as a note that students with c for the antirequisite course(s) cannot take this course for further c			.) Grading System: Letter grades					
		Delivery Mode: May be offered in multiple delivery modes						
Typical Structure of Instructional Hours			Expected frequency: Every semester					
Lecture/seminar	20	Maximu	Maximum enrolment (for information only): 36					
Tutorials/workshops	20	Brier L						
Experiential (field trip)		5		earning Assessment a				
					5.			
		45						
l otal nours 45			Transfer Credit (See <u>bctransferguide.ca</u> .)					
Scheduled Laboratory Hours Tran			Transfe	ransfer credit already exists: Yes				
Labs to be scheduled independent of lecture hours: 🛛 No 🗌 Yes				Submit outline for (re)articulation: No (If yes, fill in <u>transfer credit form</u> .)				
Department approval				Date of meeting:	January 9, 2024			
Faculty Council approval			Date of meeting:	February 2, 2024				
Undergraduate Education Committee (UEC) approval			Date of meeting:	March 1, 2024				

Learning Outcomes (These should contribute to students' ability to meet program outcomes and thus Institutional Learning Outcomes.) Upon successful completion of this course, students will be able to:

1. Discuss relationships between global environmental change and human population, urbanization, and agriculture.

- 2. Compare western scientific approaches to traditional ecological knowledge and other world views in understanding and resolving environmental issues.
- 3. Identify situations where different scientific and social scientific data collection methods and techniques are most useful in developing environmental research project.
- 4. Reflect on the ethical issues associated with the collection, analysis, and utilization of data, including traditional ecological knowledge of Indigenous communities.
- 5. Integrate field observations and data collection into a group project on local environmental change.
- 6. Utilize both social science and natural science approaches in explaining the cause of, and solutions to, current environmental problems.
- 7. Work collaboratively with other students and other stakeholders in advocating new strategies for improving environmental sustainability at a local scale.

Recommended Evaluation Methods and Weighting (Evaluation should align to learning outcomes.)

Quizzes/tests:	25%	Assignments:	25%	Project:	25%
Holistic assessment:	15%	Field evaluation:	10%		%

Details:

Quizzes/tests: 5 module tests and 2 snap quizzes (25%) Assignments: seminar discussion and exercises (25%) Project: citizen science group project on climate challenge and Abbotsford Tourism (25%) Holistic assessment: reflection journal (15%) Field evaluation: field trip with report (10%)

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Typical Instructional Methods (Guest lecturers, presentations, online instruction, field trips, etc.)

Problem-based learning, lectures, in-class seminar exercises and fieldwork, student presentations.

Texts and Resource Materials (Include online resources and Indigenous knowledge sources. <u>Open Educational Resources</u> (OER) should be included whenever possible. If more space is required, use the <u>Supplemental Texts and Resource Materials form</u>.)

	Туре	Author or description	Title and publication/access details	Year
1.	Textbook	Molles, M., and B. Borrell	Environment: Science, Issues, Solutions	2016
2.	Online resource	Govt of BC	BC Climate Action Toolkit	2023
3.	Textbook	James G. Speight	The Science and Technology of the Environment	2023
4.	Journal	Nature Magazine Editorial Board	The Rise of the Citizen Scientist. Nature August 18	2015
5.	Textbook	Melissa K. Nelson and Daniel Shilling	Traditional Ecological Knowledge: Learning from Indigenous Practices for Environmental Sustainability	2022

Required Additional Supplies and Materials (Software, hardware, tools, specialized clothing, etc.)

Course Content and Topics

Example 1:

- Introduction to the course
- Module 1: Climate change: the issues, the science, and the strategies. Topics include the scientific method, uncertainty and
 risk, traditional ecological knowledge, different world views, IPAT equation, citizen science.
- Module 2: Ecosystems and economics. Topics include Energy, Matter, Bioregionalism, Social connectivity, Conservation of biological resources, Invasive species, Forestry.
- Module 3: Human population, cities, and community development. Topics include fertility rates, Gender, BC population histories, Greening the cities, sustainability.
- Module 4: Air, water, land: resource management and pollution. Topics include the atmosphere, the hydrologic cycle, soil formation, air pollution, water pollution, soil pollution, sound, and light pollution.
- Module 5: Food, agriculture, industries, and other human activities. Topics include Food production, food security, and farmlevel adaptations.
- Student presentations and course wrap-up

Example 2:

- 1. Introduction to course, key concepts: climate change, vulnerability, risk, and adaptation
- 2. The science of climate change; the hydrological cycle; invasive species
- 3. Bioregionalism; social connectivity and capacity for change
- 4. BC population histories and suburban environmental change
- 5. Science and uncertainty; risk analysis; field techniques and ethics in data collection
- 6. Mapping change: GIS and citizen science activism; mapping lab
- 7. Water forecasting and pollution; field techniques
- 8. Sustainable development; field techniques
- 9. Food security; thesis statement development
- 10. Food production and farm-level adaptation to climate changes
- 11. Traditional ecological knowledge and climate adaptability
- 12. Urbanization, infrastructure, and climate preparedness
- 13. Greening the city from the inside out
- 14. Group presentations; summary of course themes and ideas