

	School of Science
	ENVS 100
	Introduction to Environmental Science
	Fall 2024 3 Credits
Course Outline	

INSTRUCTOR: Rachel Pugh, MSc; Ernie Prokopchuk, PhD

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OFFICE HOURS: Rachel: by arrangement via email / Ernie: Thurs & Fri 12:30 – 2:00pm in A2015

LECTURE: Tues/Thurs 10:30 -11:50 **Room:** A2408

Dates: Sept. 5 – Dec. 5

LAB: Mon 2:30-5:30

Room: A2801

Dates: Sept. 9 – Dec 9

COURSE DESCRIPTION

Environmental Science 100 is specifically designed for students who are not pursuing a science program but who wish to learn more about the physical and biological processes that shape our environment. Our planet, and its living and non-living parts, makes up the biosphere, which itself is a complex web of interactions. We investigate these interrelationships by studying the underlying processes in terms of their biology and chemistry.

The course has two goals. First to explain some of the basic concepts in earth systems and processes, ecology, and chemistry and secondly to show how these concepts can help understand some contemporary critical problems facing our world.

COURSE REQUIREMENTS

Prerequisite(s): Prerequisite(s): Admission to an academic program within the School of Science or School of Liberal Arts

EQUIVALENCY OR TRANSFERABILITY

Receiving institutions determine course transferability. Find further information at:

<https://www.yukonu.ca/current-students/transfer-credit>

See <https://bctransferguide.ca/> for an up to date list of transfers within BC.

LEARNING OUTCOMES

Students that successfully complete this course will be able to:

- Describe the basic processes and interrelationships that govern our biosphere.
- Be able to research environmental topics and prepare verbal and written arguments.
- Outline the range of environmental problems confronting the world and identify potential solutions at a variety of levels (as individuals, locally and globally.)

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COURSE FORMAT

Lectures: Three hours per week (2 classes of 1.5 hours, in person).

Labs: Three hours per week, in person.

ASSESSMENTS:

Attendance & Participation

Students are expected to attend both lectures and the scheduled activities (including field activities). Several of the lab exercises involve collecting data or making observations and this would make it difficult or impossible for students who miss the lab to complete the lab assignment. There is a strong correlation between regular attendance and academic performance.

Assignments

There will be bi-weekly assignments. Additionally, the field/lab activities involve written assignments. Students must pass the field/lab portion of the course to receive a passing grade for the overall course.

Tests

Rather than a single mid-term examination we will have two shorter exams. The final exam, scheduled for Dec. 13 from 1-4 PM, will be comprehensive and cover all topics taken up during the term.

EVALUATION

Assignments (six total, roughly every two weeks)	15%
Field/Lab exercises	25%
Midterms (2@15% each)	30%
Final Exam	30%
Total	100%

COURSE WITHDRAWAL INFORMATION

The Last date to withdraw without academic penalty is Nov. 4th, 2024. Refer to the YukonU website for other important dates <https://www.yukonu.ca/admissions/important-dates>.

TEXTBOOKS & LEARNING MATERIALS

Freedman, Bill 2018. Environmental Science: A Canadian Perspective. 6th Edition The text is available as a free download in various formats under a Creative Commons licence. See: <https://digitaleditions.library.dal.ca/environmentalscience/>

The text will be posted on Moodle

ACADEMIC INTEGRITY

Students are expected to contribute toward a positive and supportive environment and are required to conduct themselves in a responsible manner. Academic misconduct includes all forms of academic dishonesty such as cheating, plagiarism, fabrication, fraud, deceit, using the work of others without their permission, aiding other students in committing academic offences, misrepresenting academic assignments prepared by others as one's own, or any other forms of academic dishonesty including falsification of any information on any Yukon University document.

Please refer to Academic Regulations & Procedures for further details about academic standing and student rights and responsibilities.

Note that generative artificial intelligence tools such as Chat GPT, and others, can be useful in the same way as a web search or Wikipedia. They can be a starting point but cannot be used to do the work for you. Simply copying the output from something like Chat GPT and submitting it as your own work will be considered plagiarism the same as if you copied directly from a book, webpage, or classmate. Furthermore, appropriate referencing is expected in submitted work. Generative AI cannot be used as a reference source. Chat GPT and similar tools are not actual sources of information and should not be referenced as such.

ACCESSIBILITY AND ACADEMIC ACCOMMODATION

Yukon University is committed to providing a positive, supportive, and barrier-free academic environment for all its students. Students experiencing barriers to full participation due to a visible or hidden disability (including hearing, vision, mobility, learning disability, mental health, chronic or temporary medical condition), should contact [Accessibility Services](#) for resources or to arrange academic accommodations: access@yukonu.ca.

TOPIC OUTLINE (Tentative, subject to change)

Module 1	Environmental Principles, Human Activities and Resource Use
Sept 5 – Oct 8	Intro to course, environmental science as a discipline, scientific method, ecology, sustainable development, ecological footprint, worldviews, earth systems, energy flow, nutrient flows, climate change
Oct 10	Midterm #1
Module 2	Chemistry
Oct 15 – Nov 7	Introduction to Chemistry – what it is; matter, elements, atoms, and molecules PPDQ and salmon – what the issue is; concentration; safety of chemicals Microplastics, nanoplastics – molecular and extended structure; intermolecular forces and solubility Acid mine drainage – chemical reaction equations; acids & bases; pH Green house gases – combustion chemistry; structure and IR absorption; Success stories – CFC's and the ozone layer; acid rain
Nov 11 – 15	Reading Week
Nov 18	Midterm #2 (during lab period with lab activity after)

Module 3	Human Activities and Resource Use continued
Nov 19 – Dec 5	Mining, agriculture, forestry, construction
Final Exam	Dec 13, 1-4pm

**topic coverage may be subject to change during the course*