

 Yukon University	School of Science ENVS 225 Environmental Change and Fish and Wildlife Health
	Term: Fall 2026 Number of Credits: 3
Course Outline	

INSTRUCTOR: Tara Howatt, PhD
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LECTURE: Wednesday and Friday 4:00 – 5:20 pm
LECTURE CLASSROOM: A2202

COURSE DESCRIPTION

This course will be of interest to all northerners, but especially anyone interested in fisheries, wildlife, and land and resource management. The first half of the course covers the issue of long-range contaminants in northern ecosystems; what they are, where they come from, how they get here, the latest research results on levels and trends, and what it all means for northern fisheries and wildlife. The second half of the course covers a range of issues affecting the health of northern fish and wildlife including climate change, contaminants from mining, selected fish and wildlife diseases and other topics. The course will integrate both traditional knowledge and science. Students will have the opportunity to undertake practical activities and research in their own community.

COURSE REQUIREMENTS

This is a second-year level course and expectations are set accordingly. Students are assumed to have taken other university-level courses in addition to the prerequisites.

Prerequisite(s): ENGL 100

EQUIVALENCY OR TRANSFERABILITY

Receiving institutions determine course transferability. Find further information at:
<https://www.yukonu.ca/admissions/transfer-credit>

LEARNING OUTCOMES

Upon successful completion of the course, students will be able to:

1. Recognize the geographic and global scope of unprecedented environmental changes at this time in Earth's history,
2. Recognize and summarize the diverse impacts of climate change on the northern environment,
3. Understand the sources (natural and human-made), pathways, action, levels and trends of contaminants in arctic ecosystems, including long-range contaminants and contaminants from mining,
4. Understand the major diseases and disease processes of northern fish and wildlife and how

environmental change such as climate change may affect these processes,

5. Outline the process of environmental monitoring and community education principles, procedures and programs that are currently used or needed in the Yukon.

COURSE FORMAT

Weekly breakdown of instructional hours

This course will have two 1.5-hr lectures each week. Students are expected to keep up with assigned course readings and complete assignments as necessary outside of scheduled hours each week. Although it will vary from individual to individual, students should expect to spend 4-5 hours on course material outside of the classroom time (per week) on studying or completing assignments.

Students are expected to attend both lectures each week. If a student is absent for a lecture, they must contact the instructor and make up for the missed material on their own time.

Delivery format

This course will be delivered on campus in a face-to-face setting. Lectures will take place in a classroom (A2202).

EVALUATION

Term Project	25%
Discussions: Participant	20%
Discussions: Facilitator	15%
Self-Reflection	5%
Midterm Exam	15%
Final Exam	20%
Total	100%

Term Project

There will be one semester-long poster project. The project is designed to provide opportunities to implement and reflect on course material. In addition to the final poster, the term project will include a logbook with entries completed during class time and a poster outline to ensure students are reaching milestones and to receive feedback. Full term project details will be provided in class and on Moodle.

Discussions

There will be a number of in-class discussions. The instructor will facilitate the first discussion, and the following discussions will be facilitated by students. Each student will be responsible to facilitate one class discussion within a small group. These discussions will be based on a reading or case study and provide opportunity to students to explore research and/or events from multiple perspectives. The discussions will have a "Participant" component that involves actively preparing for the discussion and will be evaluated by a pre-discussion worksheet and an in-class quiz, and a "Facilitator" component that involves preparing a discussion outline and leading a discussion. Full discussion details will be provided in class and on Moodle.

Self-Reflection

Students will reflect on their learning and skill development in the middle and at the end of the semester.

Exams

There will be one midterm exam that will take place during class time and one final exam that will be scheduled during the exam period. Both exams will be closed book and based on the lecture and discussion material.

Late Policy

Course work is expected to be submitted on time, by the due date. Work completed outside of class time will not be accepted if the work has been graded and returned to students. No work will be accepted for grading after this point and will be assigned a grade of zero.

The term project will include a logbook with entries written in-class and serves the purpose of reaching milestones toward the final project. **No late submissions of logbook entries will be accepted.**

Discussion facilitation will occur during class and content from the pre-discussion worksheets support the discussion facilitation preparation. Therefore, **no late submissions of the pre-discussion worksheets or the discussion facilitation will be accepted.**

Extensions may be granted exceptionally and under special circumstances. Please communicate with your instructor **prior to the due date**. Once the due date has passed no extension will be granted.

COURSE WITHDRAWAL INFORMATION

The last date to withdraw without academic penalty is November 5, 2026. Refer to the YukonU website for other important dates.

TEXTBOOKS & LEARNING MATERIALS

There is no assigned textbook for this course; however, you will be expected to keep up with assigned readings/videos as the course progresses. These readings will be posted on Moodle and discussed in class.

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 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. If generative AI is used as part of your writing workflow, this must be indicated either as a footnote or endnote describing the use/purpose of the AI. Please be aware that generative AI cannot be used as a reference source itself. Chat GPT and similar tools

are not actual sources of information and should not be referenced as such, much as you would not reference the results of a web search. References should be to the published scientific literature, or, when appropriate, to the popular scientific media.

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

A detailed schedule with due dates will be provided to students during the first lecture. Topics that will be covered in this course include:

Course outline may be altered at any point at the discretion of the instructor

Module	Topics
1: Introduction	Introduction to Environmental Change and Fish and Wildlife Health
2: Contaminants in Northern Ecosystems	Contamination Sources and Pathways
	Persistent, Bioaccumulative and Toxic Chemicals
	Metals
	Persistent Organic Pollutants
	Microplastics
3: Fish and Wildlife Diseases	Fish and Wildlife Diseases
4: Environmental Monitoring	Environmental Monitoring