

 Yukon University	School of Science ENVS 227
	Yukon Source Water Protection and Watershed Stewardship
	Term: Winter 2026 Number of Credits: 3
Course Outline	

INSTRUCTOR: Tara Howatt, PhD

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OFFICE: A2507

OFFICE HOURS: Friday 11:00 am – 12:00 pm

LECTURE: Tuesday and Thursday 4:00 – 5:20 pm

LECTURE CLASSROOM: A2204

COURSE DESCRIPTION

The course has two over-arching goals. One is to learn ways to foster holistic connections between people, communities and watersheds, connections based on more than science. The second is to help facilitate and enhance, using both science and indigenous knowledge, the capacity of Yukon communities and First Nations to develop and implement plans for source water protection and watershed stewardship.

The course aims to increase community understanding of water management principles and promote acceptance of community-based watershed stewardship. The course encapsulates multiple perspectives and will include local indigenous knowledge and western science (i.e. hydrology, biology), in order to create a more comprehensive approach towards drinking water security and safety and overall watershed stewardship.

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. understand the scope of global water issues as well as water issues within Canada and the North;
2. demonstrate an ability to apply both Indigenous Knowledge and Western science to issues of source water protection and watershed stewardship in the Yukon;
3. understand principles and concepts of source water protection and watershed stewardship;
4. develop and evaluate basic source water protection plans;

5. demonstrate the ability to use various strategies to engage their home community in addressing local source water protection issues.

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 outside of the classroom time (per week) on studying course material 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 (A2204).

EVALUATION

Assignments	30 %
Discussions: Participant	20 %
Discussions: Facilitator	15 %
Midterm Exam	15 %
Final Exam	20 %
Total	100 %

Assignments

Collectively, assignments will be worth 30% of the final grade. The assignments are designed to provide opportunities to practice course material and to receive feedback.

Discussions

There will be approximately six 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, leading a discussion, and a self-evaluation. Full discussion details will be provided in class and on Moodle.

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

A late penalty of 10% per day will be applied to assignments, discussion outline, and discussion self-evaluations when submitted after the due date. Students are granted a one-time late submission for assignment submissions, no penalty, no questions asked. Students must hand in work one week after the due date, *before* the graded work is returned to students. Late submissions of the discussion outline will be accepted only until the Thursday before the student's scheduled discussion facilitation. No work will be accepted for grading after this point and will be assigned a grade of zero.

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.** The one-time late submission does not apply to these activities.

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 March 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.

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 Source Water Protection and Watershed Stewardship
2: Water Cycle	Defining Water and the Water Cycle
	Terrestrial Water
	Groundwater
3: Watersheds	Water Budgets
	Characterization of a Watershed
4: Source Water Protection	Yukon Water Use
	Water Monitoring and Contamination
	Yukon Water Licenses
	Source Water Protection Plans