



School of Science
NOST 215
Northern Field Studies
Summer 2021
3 Credits

Course Outline

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TIME/DATES: In-Class Orientation (Whitehorse) – August 23 & 24, 2021, 9am, A2103
Kluane Lake – August 25 – Sept 3, 2021

OFFICE HOURS: via Zoom or in-person by arrangement

COURSE DESCRIPTION

This course is designed as an introduction to northern science field techniques and concentrates on the practical skills needed to work in the field. The focus is on methods of describing and collecting data in terrestrial and aquatic ecosystems. The course begins with an introduction to the equipment and skills that would be used by a scientific field party working in a remote setting. This includes logistics, planning, safety, communications, travel and navigation. Technical skills relevant to investigations in terrestrial and aquatic environments will be taught. Students will work on plant and animal identification, vegetation and habitat sampling, and an introduction to radio telemetry using hand-held antennas to track down radio collars. There will be a field date devoted to the safe use of boats and techniques involving sampling and identification of common fish and invertebrates, and habitat descriptions.

The incorporation of traditional and local knowledge in scientific studies and ethical issues in respect to the land and local people will be discussed

RELATED COURSE REQUIREMENTS

Students will require a suitable computer with a stable internet connection to access some of the online learning modules on the course web prior to the field work portion of the course. Students with a smartphone would benefit from registering for a free account with *iNaturalist* downloading the app. Students must be dressed to work comfortably in the field in all weather conditions (a suggested clothing and gear list is attached).

PREREQUISITES

Admission to the Renewable Resources Management Program, second-year standing in another School of Science program, or permission of the instructor.

EQUIVALENCY OR TRANSFERABILITY

Receiving institutions determine course transferability. Find further information at:

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

YUKON FIRST NATIONS CORE COMPETENCY

Students who successfully complete this course will have achieved core competency in knowledge of Yukon First Nations. By the end of this course, students will have greater understanding and awareness of Yukon First Nations history, culture and journey towards self-determination. For details please see www.yukonu.ca/yfnccr

LEARNING OUTCOMES

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

1. Have the skills and confidence to plan trips and work and travel safely and efficiently in the northern wilderness;
2. Be able to identify the basic components of terrestrial and aquatic ecosystems;
3. Be able to use common scientific and technical equipment such as radios, GPS, topographical maps, compass, dichotomous keys, traps and nets, weigh scales, tapes and chains, clinometers, secchi disc, radio telemetry equipment;
4. Be able to apply appropriate techniques to gather and record scientific data;
5. Understand the role local and traditional knowledge plays in scientific studies;
6. Understand the importance of ethical considerations for the land and local people.

COURSE FORMAT

This is an intensive field course that takes place in a wilderness setting. Students work in small groups with instructors developing safe and efficient travel and work habits, learning about northern ecosystems and practising skills and techniques to gather data. Assignments reinforce instruction and encourage safe, thoughtful and planned approaches to working in the northern wilderness. Students will be expected to spend some time each evening completing field reports from the day's work, their field journal entries and preparing for the next day's activities. The course will be flexible to accommodate weather and the schedules of local resource people we will be meeting.

The field course begins at 9:00 AM on Monday August 23 (Room A2103) with an orientation followed by two full day of activities in lectures and field work carried out on campus. Students should bring a lunch and dress for the weather each day. On Wednesday, August 25, we will depart for Kluane in University provided transport (no private vehicles are required). We will be staying at a research base with shared accommodation in cabins (need to bring your sleeping bag) and meals will be provided.

Students and staff will be working and living in close quarters during the course and we will follow all COVID-19 precautions suggested by the Yukon Chief Medical Officer of Health (CMOH) at the time of the course. Students are encouraged to obtain two COVID-19 vaccines at least two weeks prior to the start of the field course; students travelling from outside the Yukon are reminded to check for the latest information on any quarantine requirements. CMOH link: <https://yukon.ca/en/health-and-wellness/covid-19-information/latest-updates-covid-19/chief-medical-officer-of-health-covid-19-updates>

EVALUATION

Attendance and participation is mandatory given the experiential focus of the course.

Journal	10%
Assignments	40%
Participation	20%
Final Exam	30%
Total	100%

Assignments

There will be assignments for students to work on most evenings as well as the task of keeping a journal to record their field observations. Assignments may include the submission of reports on activities, logistical planning exercises, collections of specimens and the mastery of technical skills. We place great importance on the mastery of practical skills and the final exam, held in camp on the final day, will consist of short written questions and opportunities to demonstrate techniques.

TEXTBOOKS & LEARNING MATERIALS

Students are required to obtain a plant field guide such as *Plants of the Western Forest: Alaska to Minnesota*. 2020 by Derek Johnson, Linda Kershaw and Andy MacKinnon. A good alternative field guide (out of print but may be available second-hand), is *Plants of Northern British Columbia* — Revised and Expanded 1999. Andy MacKinnon, Jim Pojar & Ray Coupe.

Students are encouraged to acquire a field guide to birds either as a text or a smartphone app (e.g. Sibley V2 - <https://www.sibleyguides.com/product/sibley-birds-v2-app/> ~\$28 or *iBird Pro North America* ~\$15). Students planning to take BIOL 225 may wish to acquire a text copy of the *Field Guide to Birds of North America – 7th Edition*. National Geographic Society, Washington, D.C. 2017. ISBN-13: 978-1426218354
www.yukonu.ca

Students will need an inexpensive, bound notebook for a journal and a waterproof notebook (e.g. Rite in the Rain) to carry in the field. The Rite in the Rain notebook (called “Level” – No. 311) is available online or locally at Integraphics for \$11.

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.

PLAGIARISM

Plagiarism is a serious academic offence. Plagiarism occurs when a student submits work for credit that includes the words, ideas, or data of others, without citing the source from which the material is taken. Plagiarism can be the deliberate use of a whole piece of work, but more frequently it occurs when students fail to acknowledge and document sources from which they have taken material according to an accepted manuscript style (e.g., APA, CSE, MLA, etc.). Students may use sources which are public domain or licensed under Creative Commons; however, academic documentation standards must still be followed. Except with explicit permission of the instructor, resubmitting work which has previously received credit is also considered plagiarism. Students who plagiarize material for assignments will receive a mark of zero (F) on the assignment and may fail the course. Plagiarism may also result in dismissal from a program of study or the University.

ACADEMIC ACCOMMODATION

Reasonable accommodations are available for students requiring an academic accommodation to fully participate in this class. These accommodations are available for students with a documented disability, chronic condition or any other grounds specified in section 8.0 of the Yukon University Academic Regulations (available on the Yukon University website). It is the student’s responsibility to seek these accommodations by contacting the Learning Assistance Centre (LAC): LearningAssistanceCentre@yukonu.ca.

Clothing and Equipment List

August weather is variable so ensure you have clothing that will keep you warm and dry in any condition. Dressing in layers and choosing fabrics that provide insulation when wet is a good strategy. Please consider the following suggestions:

- 2 prs. sturdy pants & shirts
- 3 prs. wool socks and 3 lighter pairs
- fleece jacket and / or down sweater
- windproof jacket or shell
- hat or toque
- sleeping bag – you will be staying in an unheated cabin that has a mattress
- underwear and sleepwear.
- hiking boots AND rubber boots (a must!!) and running shoes
- rain gear: good quality with pants and a hood – absolute requirement!!
- personal toiletry kit, towel
- daypack and water bottle, 1 litre
- work gloves, personal whistle and pocket knife
- personal first aid kit for minor cuts and blisters, insect repellent
- emergency firestarter (e.g. waterproof matches, lighter)
- headlamp and spare batteries (preferred or flashlight) – it gets dark by 10 PM

Reference and Study Material

- hard backed notebook suitable for use as a journal – you must have a proper book to keep journal notes that you will hand in. Note that your journal assignment cannot be submitted on loose leaf paper!
- a waterproof notebook (e.g. Rite in the Rain) to carry in the field; pen & pencils
- binder with loose-leaf paper or a hard backed exercise book

Optional Gear

- bear spray - recommended
- GPS will be helpful
- compass – strongly recommend you buy your own Silva Ranger

- binoculars - highly recommended – buy or try and borrow a pair
- chest waders, if possible, the best quality you can afford (or borrow)
- sunglasses and sun block

Tentative Schedule and Topic Outline

Monday August 23: Meet in A2103 for orientation at 9 AM. Dress for the weather, bring a notebook and lunch.

Tuesday August 24: Meet in A2103 at 9 AM dressed for the weather.

Wednesday August 25: Meet at 8:30 with your personal gear, lunch and water bottle. Start loading vehicles and depart for Kluane with several activities on route. Supper at the Research base.

August 26 – Sept 3: Stay at Research base with meals provided. Shared accommodation in small cabins (bring warm sleeping bag).

Friday Sept 3: Final exam in the morning and depart for Whitehorse after lunch. Arrive Whitehorse at 4PM and everyone helps clean and put away scientific gear.

September 9: Fish report assignment due.