



## COURSE OUTLINE

### 1. **Course:** ENSC 401, Environmental Science Field Course I - Fall 2022

Lab 01 : MWF 15:00 - 15:50 in ES 920 and 08:00 - 17:00 in and 08:00 - 17:00 in ES 054 and TR 08:00 - 17:00 in and 08:00 - 17:00 in ES 054

Instructor	Email	Phone	Office	Hours
Dr Daniel Shugar	daniel.shugar@ucalgary.ca	403 220-5028	ES 230	This course has MWF 3-3.50pm scheduled for tutorials but we will not meet every time. All sessions when we are not scheduled to meet are available as office hours for both Dr Shugar (ES230) and Dr Robinson (BI429D) in their offices. Additionally, please feel free to email either of them to meet at a time that better suits your schedule.
Dr Eve Robinson	eve.robinson@ucalgary.ca	403 220-8287	BI 429D	see above; or by appt

This course will run M-F Aug 22 - Sept 2, all day every day. During the remainder of the term, we have scheduled meeting times MWF 3pm until 3:50pm, and a schedule of topics is in the Lab Manual on D2L.

To account for any necessary transition to remote learning for the current semester, courses with in-person lectures, labs, or tutorials may be shifted to remote delivery for a certain period of time. In addition, adjustments may be made to the modality and format of assessments and deadlines, as well as to other course components and/or requirements, so that all coursework tasks are in line with the necessary and evolving health precautions for all involved (students and staff).

#### **In Person Delivery Details:**

We will be meeting on campus for the first week of the course (Aug 22-26) and will be in Kananaskis (UCalgary field station at Barrier Lake) for the second week (Aug 29-Sept 2). Transportation to and from Kananaskis is provided. We will also meet periodically, as scheduled, during the term.

#### **Re-Entry Protocol for Labs and Classrooms:**

To limit the spread of COVID-19 on campus, the University of Calgary has implemented safety measures to ensure the campus is a safe and welcoming space for students, faculty and staff. The most current safety information for campus can be found [here](#).

#### **Course Site:**

D2L: ENSC 401 B01-(Fall 2022)-Environmental Science Field Course I

**Note:** Students must use their U of C account for all course correspondence.

#### **Equity Diversity & Inclusion:**

The University of Calgary is committed to creating an equitable, diverse and inclusive campus, and condemns harm and discrimination of any form. We value all persons regardless of their race, gender, ethnicity, age, LGBTQIA2S+ identity and expression, disability, religion, spirituality, and socioeconomic status. The Faculty of Science strives to extend these values in every aspect of our courses, research, and teachings to better promote academic excellence and foster belonging for all.

### 2. **Requisites:**

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

#### **Prerequisite(s):**

Biology 315 or Statistics 327; and admission to the Environmental Science program.

#### **Note(s):**

- This course occurs in rugged field conditions and varying weather, for which participants must be prepared and equipped. A supplementary fee will be assessed to cover additional costs associated with this course. Students will require consent of the program to drop this course.

### 3. Grading:

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar.

In determining the overall grade in the course the following weights will be used:

Course Component	Weight	Due Date (duration for exams)	Modality for exams	Location for exams
Quizzes (assorted) <sup>1</sup>	5%	Ongoing		
Compass exercise	5%	Aug 22 2022		
Elbow River Water Quality/Discharge Assignment	10%	Sep 12 2022		
Google Earth Topography Assignment	5%	Sep 16 2022		
Site Description Assignment	5%	Sep 19 2022		
Group Research Proposal (rough draft)	5%	Oct 05 2022		
Group Research Proposal (peer review feedback - group)	5%	Oct 24 2022		
Vegetation Assignment	10%	Oct 26 2022		
Macroinvertebrate Assignment	10%	Nov 04 2022		
Air Quality Assignment	10%	Nov 14 2022		
Group Research Proposal	15%	Nov 30 2022		
Group Research Proposal (presentation)	15%	Nov 30 2022		

<sup>1</sup> Quizzes following several guest lectures will be done on D2L

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
<b>Minimum % Required</b>	95 %	88 %	83 %	78%	74%	70 %	66 %	62%	58%	54 %	50 %

Quizzes are designed to take 30 minutes to complete but you will be given 60 minutes (timed in D2L) to account for any issues.

The University of Calgary offers a [flexible grade option](#), Credit Granted (CG) to support student's breadth of learning and student wellness. Faculty units may have additional requirements or restrictions for the use of the CG grade at the faculty, degree or program level. To see the full list of Faculty of Science courses where CG is not eligible, please visit the following website: <https://science.ucalgary.ca/current-students/undergraduate/program-advising/flexible-grading-option-cg-grade>

### 4. Missed Components Of Term Work:

The university has suspended the requirement for students to provide evidence for absences. Please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations.

In the event that a student legitimately fails to submit any online assessment on time (e.g. due to illness etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date. Absences not reported within 48 hours will not be accommodated. If an excused absence is approved, one possible arrangement is that the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course. This option is at the discretion of the coordinator and may not be a viable option based on the design of this course.

Late policy - I will accept late assignments, but will deduct 10% of the assignment total per 24hr period following the due date, up to a period of 5 days, after which I will no longer accept the assignment.

## 5. Scheduled Out-of-Class Activities:

The following out of class activities are scheduled for this course.

Activity	Location	Date and Time	Duration
Field course	Elbow River, Calgary	Thursday, August 25, 2022 at 8:00 am	1 Days
Field course	Kananaskis	Monday, August 29, 2022 at 8:00 am	5 Days

**REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.** If you have a conflict with the out-of-class-time-activity, please contact your course coordinator/instructor no later than **14 days prior** to the date of the out-of-class activity so that alternative arrangements may be made.

This class is an inquiry-based course that involves traditional lectures as well as group work, and field data collection. While time is specifically scheduled during the main part of the course (Aug 22-Sept 2) for field data collection, your group may need to conduct additional data collection at a later time.

## 6. Course Materials:

A course Lab Manual will be available on D2L and will be discussed on the first day of class. We will provide printed hard copies in B&W.

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Webcam/Camera (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Stable internet connection.

For more information please refer to the UofC [ELearning](#) online website.

## 7. Examination Policy:

No aids are allowed on tests or examinations.

Students should also read the Calendar, [Section G](#), on Examinations.

## 8. Approved Mandatory And Optional Course Supplemental Fees:

Supplemental course fees exist to defray the costs of field activities.

## 9. Writing Across The Curriculum Statement:

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also [Section E.2](#) of the University Calendar.

## 10. Human Studies Statement:

Students will not participate as subjects or researchers in human studies.

See also [Section E.5](#) of the University Calendar.

## 11. Reappraisal Of Grades:

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall submit the Reappraisal of Graded Term work [form](#) to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within

the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See sections [I.1](#) and [I.2](#) of the University Calendar

- b. **Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

## 12. Other Important Information For Students:

- a. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).
- b. **SU Wellness Services:** For more information, see their [website](#) or call [403-210-9355](#).
- c. **Sexual Violence:** The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email ([svsa@ucalgary.ca](mailto:svsa@ucalgary.ca)) or phone at [403-220-2208](#). The complete University of Calgary policy on sexual violence can be viewed [here](#).
- d. **Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional [Code of Conduct](#) and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

[Student Handbook on Academic Integrity](#)  
[Student Academic Misconduct Policy](#) and [Procedure](#)  
[Faculty of Science Academic Misconduct Process](#)  
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

- e. **Academic Accommodation Policy:**

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>.

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, by filling out the [Request for Academic Accommodation Form](#) and sending it to Dr. Daniel Shugar by email [daniel.shugar@ucalgary.ca](mailto:daniel.shugar@ucalgary.ca) preferably 10 business days before the due date of an assessment or scheduled absence.

- f. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.
- g. **Student Union Information:** [SU contact](#), Email SU Science Rep: [sciencerep1@su.ucalgary.ca](mailto:sciencerep1@su.ucalgary.ca), [Student Ombudsman](#)

- h. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.
- i. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

## **Environmental Science Field Course I, Fall 2022**

### **Course Outcomes**

By the end of this course, students will have foundational ability to conduct environmental assessments (Phase 1 and Phase 2) from initial planning to a completed document.

In particular, successful students will be able to:

1. apply specific lab and field techniques in ecology, hydrology, chemistry, geology and field navigation
  - a. identify and quantify common plants and apply ecosite classifications
  - b. quantify macroinvertebrate communities
  - c. measure air quality using physical sampling
  - d. measure and interpret physical, chemical and biological metrics of water quality
  - e. measure water discharge of flowing water
  - f. use maps, compass, and GPS to locate specific points
2. apply the concepts of variability and error in gathering and interpreting data
  - a. identify accuracy and precision of measurements
  - b. design studies that account for natural variability when choosing sampling locations and intensity
  - c. apply statistical methods to collected data and draw appropriate conclusions
3. assess data with respect to government environmental standards and the peer-reviewed literature
4. integrate human use of the environment when interpreting data and recommending actions
5. communicate effectively when working in teams, when writing reports, when creating scientific posters and when giving oral presentations

### **Course Outcomes:**

- Apply lab and field methods in environmental science.
- Apply concepts of variability and error in data collection.
- Assess data according to government standards and peer-reviewed literature.
- integrate human use into conclusions based on data
- Communicate in discussions, in writing, and in oral presentations.

Electronically Approved - Aug 16 2022 13:01

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### **Department Approval**

Electronically Approved - Aug 16 2022 17:12

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**Associate Dean's Approval**