

Course ID:	Course Title:	Winter 2023
ECOL 235 -1, 235T -1	Introduction to Environmental Science	Prerequisite: none
		Credits: 3

Class Information		Instructor Information		Important Dates	
Delivery:	In Class	Instructor:	Dr. Stephen Jeans	First day of classes:	January 9, 2023
Days:	Wednesday, Friday	Email:	sjeans@ambrose.edu	Last day to add/drop:	January 22, 2023
Time:	9:45 - 11:00 am	Phone:	403-410-2000 ext. 6939 office, 403-612-4203 cell	Last day to withdraw:	March 31, 2023
Room:	A L2084	Office:	L2111	Last day to apply for extension:	April 3, 2023
Lab/ Tutorial:	Friday, 8:30 – 9:30 am also in room L2084	Office Hours:	Mon. 3:30 - 5 pm, Wed./Fri. 11 am - 12 noon, or by appointment	Last day of classes:	April 14, 2023
Final Exam:	Fri., Apr. 21, L2084, 9:00 am - 12:00 noon				

Important Dates and Information

For a list of all important dates and information regarding participating in classes at Ambrose University, please refer to the Academic Calendar at <https://ambrose.edu/academic-calendar>.

Course Description

This course will provide students will an overview of Environmental Science, including environmental testing, resource use by humans, pollution, biotechnology, conservation methods, industry standards, and environmental guidelines within Canada.

Expected Learning Outcomes

Students will be able to:

- knowledge*
- understand the nature of population, consumption, sustainable development, and resilience,
 - define terminology related to the environmental science, resources, energy, and matter,
 - explain ecosystem function including models of biogeochemical and matter cycling,
 - connect potential anthropogenic climate change impacts with different regions of Canada,
 - appreciate both fresh water and saline aquatic systems especially regarding fisheries,
 - know agricultural trends reducing land degradation, drought, and biomagnification of toxins,
 - understand social and natural science roles in ecosystem-based forest management,

- identify important topics in mining, energy extraction, production, and footprint reduction,
- explain endangered species, biodiversity, species endemism, and alien invasive species,
- identify issues of concern and related Canadian environmental laws, and regulations, and
- contextualize processes of community and stakeholder consultation, treaties, and laws.

- skill*
- estimate the cost of and ecosystem management choice versus alternatives,
 - observe natural settings in the identification of environmental science aspects and issues,
 - critique media and prepare an argument to debate wicked environmental problems, and
 - develop public speaking aptitude and express creativity in making presentations.

- attitude*
- adopt and define a personal environmental awareness reflecting ideas from Environmental Science,
 - appreciate various viewpoints and perspectives on global and regional issues both scientific and social,
 - develop an interest in visions for sustainability based on the precautionary principle, and
 - value an understanding of the significance and coexistence of science and of faith.

Textbooks

Dearden, Philip, Mitchell, Bruce, and O'Connell, Erin (2020). *Environmental Change & Challenge: A Canadian Perspective. Sixth Edition*. Toronto: Oxford University Press. ISBN-13: 9780199033829

notes: see the Lions Bookstore, at Ambrose University, or instant access online on our Moodle course page, also acceptable are previous textbook editions by the same authors (when in doubt ask your course professor).

Course Schedule

Below is a tentative schedule, subject to change, as circumstances require (guest speaker, etc.).

See our **Course Reader** on Moodle for lecture notes related to Chapter readings (not all content/pages are required).

Weeks with yellow highlight background indicate date changes, green indicate field work for Tutorial and Lecture portion.

Week	Date	Reading	Topic/Activity	Required, Notes, and Activities Due
01	Jan. 11	Chapter 1	Environmental Resources and Society	(Note: each week typically requires handing in Exit Slip and Week's Work.)
02	Jan. 18	Chapter 2	Responding to Global Environmental Change	
03	Jan. 25	Chapter 3	Energy Flows and Ecosystems	
04	Feb. 01	Chapter 4	Ecosystems are Dynamic	
05	Feb. 08	Chapter 5	Ecosystems and Matter Cycling	
06	Feb. 15	Chapter 7	Planning and Management	
	Feb. 20		NO CLASS – Reading Week	
07	Mar. 01	Chapter 8	Climate Change	
08	Mar. 08	Chapter 9	Oceans and Fisheries	

09	Mar. 15	Chapter 12	Fresh Water	
10	Mar. 22	Chapter 11	Agriculture	Fieldtutorial to walking locations around campus, dress for weather Friday
11	Mar. 31	Chapter 10	Forests (Friday tutorial and lecture only)	Wednesday strongly encouraged to attend Ambrose Research Conference
12	Apr. 05	Chapter 13	Minerals and Energy (Wednesday lecture only)	Good Friday is a holiday, NO classes
13	Apr. 12	Chapter 15	Endangered Species and Protected Areas	

Requirements

Exit Slips are short checks of student understanding, feedback for both professor and learner to improve as the term progresses. At the conclusion of a week's class meeting, a brief graded quiz or activity, about five minutes; for example, about five questions, a diagram, or a short paragraph.

Week's Work are weekly learning-related tasks. Format varies considerably with concept taught. Students can expect to practice pen and paper problems for some activities and make observations in practical activities for others. There will be small group and large group activities that include handing in the product of that work. As much as possible the bulk of the Week's Work is conducted in-class with course professor and peer support. Some out-of-class research and revision ensures the highest mark possible. Tutorial is mainly based on this work/mark.

The **Final exam**, scheduled by the **Registrar's Office**, is similar to a larger Exit Slip and Tutorial, but cumulative for the course. Format for the Exam will be in two parts; Part I - short exam, varied question formats, consistent with class activities and Exit Slips, Part II - practical activity in keeping with Tutorial work. For accommodation, see your course professor. **Students must ensure they are available for the final exam.** Vacations, flights, employment, etc. are NOT valid reasons for a deferred examination.

Accommodation

Universal Design for Learning is used in the development of this course. Exams (midterm, final) provide students with additional time (<1.5x to 2x regular time to complete exams), and other accommodations. See your instructor.

Health and Safety

To keep our community safe, stay home if you are unwell (symptomatic or not) with any illness that is communicable (COVID, flu or cold virus, etc.). Students are expected to be physically present, however, following recent protocol (of staying at home until well and then on your return masking for five days) is the best kindness you can show to others. Contact your course instructor to discuss arrangements that ensure you keep current with learning and course standing. Should the need arise, this course may be delivered online (e.g., through Zoom and Moodle modules). If your instructor becomes ill (but mainly asymptomatic) then class work will move online (synchronous or asynchronous).

Attendance

Attendance is mandatory. *Introduction to Environmental Science* provides discipline-based fundamentals supported by professional data from the field, demonstrations, practical reinforcement activities, and participatory interaction. As a result, in-person activities, conducted in scheduled class time, count toward assessed course components, leaving greater time for reading, research, and study.

Lectures are not simulcast/streamed nor provided online. Make the course professor aware of an absence cause as soon as possible for the possibility of retaining course standing. If you are ill, stay home. The course professor responds typically within a day about class expectations and in assisting you with alternate arrangements for excused absence.

Grade Summary:

Grading Schedule

Exit Slip	30%	thirteen anticipated (~one per class)
Week's Work exercises	35%	twelve anticipated (~one per week with tutorial)
Final written examination	<u>35%</u>	mix of short questions and practical possible, cumulative
Total: 100%		

Late assignments accepted at the course professor's discretion. Mark is reduced by 10% / day (weekends count as a day), but, 5% / day possible if the student is in contact with the instructor ahead of the deadline, and onward until complete. No makeup session for missed Week's Work, Exit Slip, Midterm, or Final exam, without cause and at the course professor's digression.

Note that a breach of **academic integrity** (plagiarism, cheating, falsification, etc.) typically results in a mark of zero, at the instructor's digression. Academic misconduct is an action, whether actual, attempted, or assistance provided to another, in relation to academic and scholarly activity, whether deliberate or inadvertent, that is dishonest, misrepresents information, or creates unfair advantage.

The available letters for course grades are as follows:

Grade	Numeric equivalent	Interpretation	Grade Points
A+	100	Mastery: Comprehensive understanding of subject matter	4.00
A	95		4.00
A-	90		3.70
B+	85	Proficient: Well-developed understanding of subject matter	3.30
B	81		3.00
B-	76		2.70
C+	71	Basic: Developing understanding of subject matter	2.30
C	67		2.00
C-	62		1.70
D+	59	Minimal Pass: Limited understanding of subject matter	1.30
D	55		1.00
F	up to 49%	Failure: Failure to meet course requirements	0.00
P	P/F	Pass	No grade points

Because of the nature of the Alpha 4.00 system, there can be no uniform University-wide conversion scale. The relationship between raw scores (e.g., percentages) and the resultant letter grade will depend on the nature of the course and the instructor's assessment of the level of each class, compared to similar classes taught previously.

Please note that final grades will be available on student registration system. Printed grade sheets are not mailed out.

Other

Hallway and outdoor work

Some activities are out-of-class or outdoors to take advantage of large spaces and to teach about natural wonders or physical processes. Advance notice permits the securing of personal items and dressing responsibly for these classes.

Equipment use

To reinforce concepts encountered during this course, participants observe and/or take part in multiple demonstrations and laboratory work that includes the use of equipment. Safety is an expectation of each student for themselves, for the well-being of others in the class, and for the preservation of Ambrose facilities, apparatus, and sample materials. When conducting work in the classroom or in the field, be observant of proper procedure and check that others around you are not at risk. Report any concerns or incidents immediately to your instructor.

Technology

Students are encouraged to **bring a laptop** to class for digital simulations and science research activities. Regarding cellphones, laptops, and other electronic devices -- out of respect for others, **turn off audible alerts** during class time. Non-course related use, especially distractions, are not permitted.

Library

Ambrose University Library has a wealth of connections to online materials/sites, please inquire about this resource. There is a copy of the course textbook available for short-term loan and reading, please inquire about that.

Ambrose University Important Information

Communication

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (cancelled class sessions, extensions, requested appointments, etc.) between class sessions.

Exam Scheduling

Students who find a conflict in their exam schedule must submit a *Revised Final Exam Time Application* to the Office of the Registrar by the deadline noted in the Academic Calendar. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; or 2) the scheduled final examination slot results in three consecutive examination periods. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

Standards of Behaviour in the Classroom Setting

Learning is an active and interactive process, a joint venture between student and instructor and between student and student. Some topics covered within a class may lead to strong reactions and opinions. It is important that Students understand that they are entitled to hold contradictory beliefs and that they should be encouraged to engage with these topics in a critical manner. Committing to this type of "active learning" significantly increases the learning experience for both teacher and student, and reflects the Christian imperative to pursue truth, which lies at the heart of the Ambrose educational experience. However, active discussion of controversial topics will be undertaken with respect and empathy, which are the foundations of civil discourse in the Classroom Setting. Primary responsibility for managing the classroom rests with the instructor. The instructor may direct a student to leave the class if the student engages in any behaviour that disrupts the classroom setting. If necessary, Ambrose security will be contacted to escort the student from class. Please refer to your professor regarding their electronic etiquette expectations.

Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to acknowledge to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. The academic calendar can be found at <https://ambrose.edu/academics/academic-calendar>

Privacy

Personal information (information about an individual that may be used to identify that individual) may be required as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at privacy@ambrose.edu.

Coursework Extensions

Should a request for a time extension on coursework exceed the end of the term, a *Coursework Extension Application* must be completed and submitted to the Office of the Registrar. The extension (if granted) will be recorded on the student record. Extensions are granted at the discretion of the instructor and registrar. Normally, Course Extension Applications will be considered only when all of the following conditions are met:

- the quality of prior course work has been satisfactory;
- circumstances beyond your control, such as an extended illness or death of a family member, make it impossible for you to complete the course work on time; and
- you submit *Coursework Extension Application* to the Office of the Registrar on or before the deadline specified in the Academic Schedule.

If granted, time extensions do not excuse you from a final examination where one has been scheduled for the course. A temporary grade of TX will be assigned until a final grade is submitted in accordance with the new deadline. A final grade of F will apply to:

- all course work submitted after the end of the semester unless a coursework extension has been granted; and all course work submitted after the revised due date provided by an approved extension to coursework.

Academic Success and Supports

Accessibility Services

Academic accommodation is provided to Ambrose students with disabilities in accordance with the Alberta Human Rights Act and the Canadian Charter of Rights and Freedoms. Provision of academic accommodation does not lower the academic standards of the university nor remove the need for evaluation and the need to meet essential learning outcomes. Reasonable accommodations are tailored to the individual student, are flexible, and are determined by considering the barriers within the unique environment of a postsecondary institution. It can take time to organize academic accommodations and funding for disability-related services. Students with a disability who wish to have an academic accommodation are encouraged to contact Accessibility Services as early as possible to ensure appropriate planning for any needs that

may include accommodations. Staff can then meet with students to determine areas to facilitate success, and if accommodations are required, ensure those accommodations are put in place by working with faculty.

Learning Services

Learning Services provides support with

- General study skills (e.g., time management, note-taking),
- Research and communication skills (e.g., writing a paper, researching, giving a presentation), and
- Subject-specific skills (e.g., solving a chemistry problem, reconciling a general ledger, understanding a philosophical argument).

We offer workshops, one-to-one tutoring, and more, and all of our services are free to students currently enrolled at Ambrose University. To learn more, please visit <https://ambrose.edu/sas/learning-services>.

Mental Health Support

All of us need a support system. We encourage students to build mental health supports and to reach out when help is needed.

On Campus:

- Counselling Services: ambrose.edu/counselling
- For immediate crisis support, there are staff on campus who are trained in Suicide Intervention Skills and can help you access mental health support. See <https://ambrose.edu/student-life/crisissupport> for a list of staff members.
- For additional wellness resources go to the Ambrose wellness page: <https://ambrose.edu/wellness>

Off Campus:

- Distress Centre - 403-266-4357
- Alberta Mental Health Helpline - 1-877-303-2642 (Toll free)
- Sheldon Chumir Health Care Centre - 403-955-6200
- Emergency - 911

Sexual Violence Support

We are committed to supporting students who have experienced gender based sexual violence in the past or while at Ambrose. Many of the staff, faculty, and student leaders have received Sexual Violence Response to Disclosure training. We will support you and help you find the resources you need and you can access information about reporting. Information about the Sexual Violence policy and on and off campus supports can be found on our website– ambrose.edu/sexual-violence-response-and-awareness.

Off Campus:

- Alberta's Oneline for Sexual Violence - 1-866-403-8000 call or text
- Clinic: Sheldon Chumir Health Centre - 403-955-6200
- Calgary Communities Against Sexual Abuse - 403-237-5888
- Chat: www.calgarycasa.com

Note: Students are strongly advised to retain this syllabus for their records.