

Course ID:	Course Title:	Winter 2024
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 8
Days:	Wednesday, Friday	Email:	sjeans@ambrose.edu	Last day to add/drop:	January 21
Time:	1:00 - 2:15 pm	Phone:	403-407-9500	Last day to withdraw:	March 28
Room:	A2133	Office:	L2111	Last day to apply for extension:	April 2
Lab/Tutorial:	Fri., 11:30 am - 12:30 pm, also in room A2133	Office Hours:	Wed. 2:30 to 5:00 pm, or by appointment in-person/online, or any time/place we meet	Last day of classes:	April 12
Final Exam:	Mon., Apr. 22, A2133, 1:00 pm - 4:00 pm				

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 with 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 by our Moodle course page, also acceptable are previous textbook editions by the same authors (when in doubt ask your course professor).

See **Moodle** (AU's learning management system) for class-specific resources and learning materials (e.g., publisher PowerPoint files and a **Course Reader** that lists the key concepts and terminology from the textbook, a basic lecture summary). Depending on the activity, you may be required to print and bring a hard copy of an assignment to class.

Course Schedule

Below is a tentative schedule, subject to change, as circumstances require (poor weather days, etc.). Students are encouraged to regularly check both the course Moodle page and their Ambrose University email for materials and class expectations (e.g., shifts in delivery due to weather, or assignment changes).

Weeks in **green** highlight-background indicate outdoor experience for portion of class, **yellow** indicates part week. **Reading** focuses on **specific pages/concepts** from the selected chapters, see our **Course Reader on Moodle for details**.

Week	Date	Reading	Topic/Activity	Required, Notes, and Activities Due
01	Jan. 10	see Course Reader	Environmental science history and cases	(Note: each week typically requires handing in Exit Slip and Week's Work.)
02	Jan. 17	see Course Reader	Ecosystems and processes	
03	Jan. 24	see Course Reader	The business of managing nature	
04	Jan. 31	see Course Reader	Populations and consumption	
05	Feb. 7	see Course Reader	Climate mitigation and adaptation	

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06	Feb. 14	see Course Reader	Oceans and fishing	
Feb. 21		NO CLASS – Reading Week		
07	Feb. 28	see Course Reader	Forests and ecosystem services	
08	Mar. 6	see Course Reader	Agriculture and novel entities	
09	Mar. 13	see Course Reader	Fresh water and ethics	
10	Mar. 20	see Course Reader	Minerals and energy	Fieldtutorial to walking locations around campus, dress for weather Friday
11	Mar. 27	see Course Reader	Biodiversity conservation	(Wednesday lecture only) Friday, NO classes – Good Friday
12	Apr. 3	see Course Reader	Sustainability and development	Friday Fieldtutorial to nearby locations around campus, dress for weather
13	Apr. 10	see Course Reader	Responding to environmental challenges	Friday - AU annual Earth Day Celebration

Requirements

Introduction to Environmental Science is a broad-based survey course providing discipline-based fundamentals supported by field data, demonstrations, practical reinforcement activities, and participatory interaction.

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.

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.

Case for the Environment is a short paper and a short presentation on an environmental problem. Presentations are designed in a small group; however, each student is responsible for and independently graded on their own work/component related to the problem and how it is managed. Each student is marked on their paper, presentation, and peer-observation feedback.

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, masking if appropriate) is the best kindness you can show to others. Contact your course instructor within 24 hours to discuss arrangements that ensure you keep current with learning and course standing.

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

Week's Work class exercises	27.5%	about one/week (e.g., in-class sample problem)
Exit Slip quiz	27.5%	about one/week (e.g., multiple choice questions)
Case for the Environment	20.0%	Earth Day short paper and presentation/student
Final written examination	25.0%	multiple choice with practical question possible

Total: 100%

Late assignments accepted at the course professor's discretion, especially if the student is in contact with the instructor ahead of the deadline, and onward until it is complete. Vacations, flights, employment, etc. are NOT valid reasons for missing classwork. Students with a valid reason (a one-time technology failure, illness, or family emergency, etc.) requiring an extension should contact their instructor as soon as possible, **within 24 hours** following the deadline. It is the student's responsibility to seek deadline extensions, and to keep their instructor apprised of situations which may impact their ability to submit assignments in a timely manner. An accepted late-assignment must be submitted before others are marked-and-returned. An alternate to the assignment is likely to substitute when specific in-class information is missing and/or the grading/outcome of the assignment is known to the class, and only when the course schedule allows. Late assignments may be deducted a 10% penalty for every successive class missed. Late assignments will not be accepted more than two weeks after their due date.

Students worried about poor grades should see your course professor well before it is too late to alleviate the problem. Barring extenuating circumstances, graded assignments are returned to students within one week of submission. Allow five (5) days after completing all course work and assessments for marks to go to the Registrar's office.

The available letters for course grades are as follows:

Grade	Numeric equivalent	Interpretation	Grade Points
A+	96 to 100%	Mastery: Comprehensive understanding of subject matter	4.00
A	91 to 95.99		4.00

A-	86 to 90.99		3.70
B+	82 to 85.99	Proficient: Well-developed understanding of subject matter	3.30
B	77 to 81.99		3.00
B-	73 to 76.99		2.70
C+	68 to 72.99	Basic: Developing understanding of subject matter	2.30
C	64 to 67.99		2.00
C-	60 to 63.99		1.70
D+	55 to 59.99	Minimal Pass: Limited understanding of subject matter	1.30
D	50 to 54.99		1.00
F	0 to 49.99	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

Academic integrity

Note that a breach of **academic integrity** (plagiarism, cheating, falsification, etc.) typically results in a mark of zero, at the instructor's discretion. 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.

Students are encouraged to employ the resources of this course in their studies and seek out other valid academic sources (note, use of AI platforms will not fit well, but are not barred). For any work not of your own creation add quotations to text or caption to a figure. Copyright declarations should remain intact *and/or* any work of another given credit by listing the author(s)/source (APA Style referencing preferred). All of our course resources (including slides and handouts) are provided under a Creative Commons Attribution-NonCommercial-ShareAlike license. Uploading course resources to sites including Chegg, CourseHero, or other online submit-to-access service is considered a commercial activity, and explicitly barred by this license, which will be considered a violation of academic integrity and reported.

See below for Ambrose's statement defining plagiarism and outlining its consequences. In brief, it is your responsibility as a citizen of Ambrose to be aware of the policies of Ambrose and abide by them. Ignorance is no excuse. Plagiarism will not be tolerated.

Examples of plagiarism include, but are not limited, to:

1. Copying an assignment from someone else and submitting it as your own work.
2. Working with a friend and writing down identical answers, whether you understand the content or not.
3. Quoting directly from a source without supplying quotation marks or a citation.
4. Quoting directly from a source without supplying quotation marks, even if it is referenced.
5. Quoting nearly word-for-word from a source, changing only the occasional word, even if it is referenced.
6. Submitting an assignment in which >30% of the content is properly quoted and cited; that is, at least 70% of the words in an assignment need to be your own. A general rule of thumb: for every line quoted, there should be three lines of your own material.
7. Submitting the same or similar assignment for more than one class, or more than one iteration of the same class.
8. Not citing illustrations used in a paper.

Penalties for plagiarism

First offense - in any one of my classes, a zero on the assignment with no chance of rewriting it, and a note in your academic file.

Second offense - in any one of my classes, a zero in the class, and a notice on your transcript.

Third offense - in any one of my classes, recommendation for expulsion from the university.

Note that Ambrose has an appeal process in place if you feel that allegations of plagiarism were unfounded.

Note that my record of a student's past plagiarism does not reset with each semester or class.

Submission formats

The **preferred formats** for online submissions are MSWord (.docx) or Adobe Acrobat (.pdf). Assignments submitted as a link to a GoogleDoc or other image format (e.g., Apple file .pages or shortcut link) will not be accepted except by prior arrangement with the instructor.

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.

Email and personal etiquette

Emails are a formal means of communicating with the course instructor. As such, they should begin with an appropriate salutation (e.g., "Dear Dr. _____"), be courteous, and respectful. Aggressive, foul, or disrespectful language, whether in person or over email, will not be tolerated and could result in disciplinary action taken by the University. Do not expect responses on evenings or weekends (but you can send emails). Do not expect to have questions pertaining to assignments or critical course components answered on the day that an assignment is due or an exam to be written (but you can ask, especially if early). In other words, practice being professional and proactive with your responsibilities.

Ambrose University Important Policies & Procedures:

Registration

Registration is the process of selecting and enrolling in classes for upcoming semesters. Only students who are registered will be permitted to attend class and receive a grade for the course. You are responsible for ensuring that the courses you take are appropriate for your program, that they do not have any scheduling conflicts, that they have the necessary prerequisites and that they meet all degree requirements.

Withdrawal From A Course

Prior to the Add/Drop deadline: through the student registration system whereby course(s) will be removed with no academic or financial penalty. After the Add/Drop deadline and until the Withdrawal deadline: through submission of the 'Withdrawal from Course' form whereby course(s) will remain on the permanent academic record/transcript with the symbol 'W'. (See ambrose.edu/registrar/request-forms.) Students who withdraw from more than 30 credits attempted at Ambrose University will be required to withdraw from their program. Students considering withdrawing from courses are encouraged to discuss with their Faculty Advisor and/or the Office of the Registrar questions relating to their withdrawal decision specifically relating to financial assistance, study permit requirements, prerequisites for subsequent courses, readmission, and/or graduation timeline. Students who do not formally withdraw from a course are still considered registered in the course, even if they are no longer attending classes. In this case, students will be assigned a grade based on coursework completed as per the course syllabus and are responsible to pay the tuition and fees assessed for the course. Under extenuating circumstances, students may request from the Office of the Registrar a course(s) withdrawal after the Withdrawal deadline and until the last day of classes. Extenuating circumstances typically consider situations such as medical emergencies, compassionate grounds, or unforeseen conditions/situations beyond the students' control that arise after the start of the semester and are considered on a case-by-case basis. Supporting documentation from a physician or Registered Health Professional must accompany this request.

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. If granted, time extensions do not excuse you from a final examination where one has been scheduled for the course. More conditions apply.

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.

Communication

Your Ambrose email account is the University's primary and official mode of communication with you. Information delivered to your Ambrose email is considered official notification. Ambrose University is not responsible for your failure to receive important information delivered to your Ambrose email.

Lecture Recording

The recording of lectures or any other classroom academic activity, other than an audio recording as an accommodation, is prohibited except at the discretion of the instructor. Any use other than that agreed upon with the instructor constitutes academic misconduct and may result in suspension or expulsion. Permission to allow a lecture recording is not a transfer of any copyrights, so such recordings may be used only for individual or group study with other students enrolled in the same class and may not be reproduced, transferred, distributed or displayed in any public or commercial manner. Student must destroy recordings in any, and all formats at the end of the semester in which they are enrolled in the class. All students recording lectures, must sign the Permission Form to audio record lectures which is available through the Office of the Registrar.

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.

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.

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

- **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.