

INTRODUCTION TO SUSTAINABILITY (BIOL/LOYC 205/2): 3 credits

Course Outline: September 2021

1. GENERAL INFORMATION

- Instructor: Dr. Jim Grant, Department of Biology
Best way to contact me: james.grant@concordia.ca
- Office hours: Tuesdays: after class (1600-1630), either in person or on Zoom
Thursdays: after class (1600-1630), in the classroom and then in my office
By appointment, either in person or on Zoom; email me
- Lectures: Tuesdays & Thursdays, 1445-1600, HC155 or via Zoom
- Tutorials: 1315-1430; Tuesdays, CC321 or via Zoom; Thursdays CC 112 or via Zoom
- Lectures: One pre-recorded lecture (remote, asynchronous) per week, posted on Moodle
Tuesdays: 1445-1600; Interactive synchronous sessions with student presentations, exercises, questions and answers; alternating between in person (HC155) and via Zoom. Students attend every other week. Will not be recorded.
Thursdays: 1445-1600; In person (HC155); will be recorded (likely PowerPoint slides and voice) and posted on Moodle.
- Tutorials: Tuesdays or Thursdays: 1315-1430. Students attend these synchronous sessions every other week, on their scheduled day, beginning during the week of Sept. 21. On each day, one session will be in person and one session will be via Zoom, in alternate weeks.

2. COURSE DESCRIPTION

- Calendar Entry: The course will begin with an introduction to the science of ecology and to the concept of sustainability as an ecological principle. The concept of sustainability will then be broadened to include humans, as students are introduced to ethics, economics, and resource management from an eco-centric point of view. Students will be encouraged to think critically about the major issues facing humanity today.
- Prerequisites: None
- Learning Objectives: Students will become familiar with ecological theory, and learn to identify which principles apply to specific problems of sustainability. Students will then apply these principles to provide practical solutions for these problems. They will also develop an ecological literacy and learn to read popular articles with a critical eye. Students will do most of the teaching in the tutorial periods.

Required Readings: No required texts. Readings will be posted in a separate document on Moodle and will be announced in class. All will be readily accessible on the web.

Territorial Acknowledgement: I acknowledge that Concordia University is located on unceded Indigenous lands. The Kanien'kehá:ka Nation is recognized as the custodians of the lands and waters on which we gather. Tiohtià:ke/Montréal is historically known as a gathering place for many First Nations. Today, it is home to a diverse population of Indigenous and other peoples. We respect the continued connections with the past, present and future in our ongoing relationships with Indigenous and other peoples within the Montreal community.

3. BEHAVIOUR

All individuals participating in courses are expected to be professional and constructive throughout the course, including in their communications. Concordia students are subject to the [Code of Rights and Responsibilities](#) which applies both when students are physically and virtually engaged in any University activity, including classes, seminars, meetings, etc. Students engaged in University activities must respect this Code when engaging with any members of the Concordia community, including faculty, staff, and students, whether such interactions are verbal or in writing, face to face or online/virtual. Failing to comply with the Code may result in charges and sanctions, as outlined in the Code.

Plagiarism: The most common offense under the Academic Code of Conduct is plagiarism, which the Code defines as “the presentation of the work of another person as one’s own or without proper acknowledgement.” This includes material copied word for word from books, journals, Internet sites, professor’s course notes, etc. It refers to material that is paraphrased but closely resembles the original source. It also includes for example the work of a fellow student, an answer on a quiz, data for a lab report, a paper or assignment completed by another student. It might be a paper purchased from any source. Plagiarism does not refer to words alone –it can refer to copying images, graphs, tables and ideas. “Presentation” is not limited to written work. It includes oral presentations, computer assignments and artistic works. Finally, if you translate the work of another person into any other language and do not cite the source, this is also plagiarism. In Simple Words: Do not copy, paraphrase or translate anything from anywhere without saying where you obtained it. (Source: The Academic Integrity Website: concordia.ca/students/academic-integrity)

Content belonging to instructors shared in online courses, including, but not limited to, online lectures, course notes, and video recordings of classes remain the intellectual property of the faculty member. It may not be distributed, published or broadcast, in whole or in part, without the express permission of the faculty member. Students are also forbidden to use their own means of recording any elements of an online class or lecture without express permission of the instructor. Any unauthorized sharing of course content may constitute a breach of the Academic Code of Conduct and/or the Code of Rights and Responsibilities. As specified in the Policy on Intellectual Property, the University does not claim any ownership of or interest in any student IP. All university members retain copyright over their work.

4. GRADING

Evaluation:	Mid-term test (in person)	10-15%
	Participation in student presentation sessions on Tuesdays (optional counts to reduce the value of the midterm test).	up to 5%
	Participation in tutorials (each student attends four)	10%
	Oral Presentation in Tutorial	20%
	Optional* Exercises	5-30%
	Final Exam (in person)	25-50%

What are you responsible for?	In decreasing order of importance: (1) what we cover in class, (2) any assigned readings, (3) what is covered in tutorials.								
What to do if ill?	There will be no make-up test. Use the new short-term absence form if you are ill or have other legitimate reasons for missing class: https://www.concordia.ca/students/absence-form.html . For religious holidays, email me directly. The final exam will count for a higher % to offset the difference.								
Optional Exercises:	<p>Students will be expected to participate in at least one “optional” exercise (worth 5% of their grade) and are encouraged to get involved in exercises worth up to 30% of their final grade. Examples of these optional exercises are listed below, but students are also encouraged to come up with projects on their own – just get them pre-approved by me. Any oral presentations related to an optional exercise will be presented in the synchronous sessions on Tuesdays – email me for a booking. I will count your best grade on the optional exercises for the required 5%; all other grades on optional assignments will only count if they are higher than your grade on the final exam.</p> <table border="0" style="margin-left: 20px;"> <tr> <td>Attend a special lecture/event and provide a critique (max of 1)</td> <td style="text-align: right;">5%</td> </tr> <tr> <td>Introduce and critique a “youtube” video on sustainability to the class (1)</td> <td style="text-align: right;">10%</td> </tr> <tr> <td>Write a letter to the editor</td> <td style="text-align: right;">10%</td> </tr> <tr> <td>Individual project (make a pitch to me)</td> <td style="text-align: right;">5-20%</td> </tr> </table>	Attend a special lecture/event and provide a critique (max of 1)	5%	Introduce and critique a “youtube” video on sustainability to the class (1)	10%	Write a letter to the editor	10%	Individual project (make a pitch to me)	5-20%
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Grading scheme:	A+ ≥90, A=85-90, A- =80-85, B+=77-80, B=73-77, B- =70-73, C+=67-70, C=63-67, C- =60-63, D+=57-60, D=53-57, D- =50-53, F<50								

5. LECTURE SCHEDULE (subject to change)

Over the 13-week semester, you will be attending: 12-13 recorded lectures, 12 in-person lectures (or watching them on a recording), 2 synchronous, zoom lectures and 5 discussion/presentation sessions, either in-person or on zoom (alternating weeks).

<u>WEEK</u>	<u>ACTIVITY</u>
1. Topics	What is sustainability? What is ecology? I - Populations evolve Recorded lecture; for all
Sept 7	Synchronous lecture on Zoom: Course Description, for all
Sept 9	In-person lecture: for all
2. Topics	II – Co-evolution, III – One true tree of life, Ecological ethics Recorded lecture: for all
Sept 14	Synchronous lecture on Zoom: for all
Sept 16	In-person lecture: for all
Sept 20: Deadline for withdrawal with tuition refund	
3. Topics	Tutorials begin , Ecological ethics (cont'd) Recorded lecture
Sept 21*	In-person session 1a: student presentations, discussion, Q&A; for in-person students
Sept 23	In-person lecture: for all
4. Topics	IV – Populations fluctuate in abundance, V – Populations cannot grow indefinitely Recorded lecture
Sept 28*	Remote session 1b: student presentations, discussion, Q&A; for remote students
Sept 30	In-person lecture: for all
5. Topics	VI - Sustainable harvest is possible, VII - Communities are composed of interacting... Recorded lecture
Oct 5*	In-person session 2a: student presentations, discussion, Q&A; for in-person students
Oct 7	In person lecture: for all
6. Topics	VIII – Every species has its niche, IX – Patterns of biodiversity are predictable Recorded lecture
Oct 12*	Remote session 2b: student presentations, discussion, Q&A; for remote students
Oct 14	In-person lecture: for all
7. Oct 19	Review/Q&A session on Zoom: for all students
Oct 21	Midterm test: in person (email me for an accommodation)
8. Topics	X – Communities are always changing, XI – Energy flows and dissipates Recorded lecture
Oct 26*	In-person session 3a: student presentations, discussion, Q&A; for in-person students
Oct 28	In-person lecture: for all
9. Topics	XII – Nutrients cycle, XIII – Ecosystems provide services Recorded lecture
Nov 2*	Remote session 3b: student presentations, discussion, Q&A; for remote students
Nov 4	In-person lecture: for all
Nov 8: Deadline for academic withdrawal	
10. Topics	XIV – Common property resources, XV – Humans are cooperative by nature

	Recorded lecture
Nov 9*	In-person session 4a: student presentations, discussion, Q&A; for in-person students
Nov 11	In-person lecture: for all
11. Topics	Ecological economics, Ecological footprints
	Recorded lecture
Nov 16*	Remote session 4b: student presentations, discussion, Q&A; for remote students
Nov 18	In-person lecture: for all
12. Topics	Case studies
	Recorded lecture
Nov 23*	In-person session 5a: student presentations, discussion, Q&A; for in-person students
Nov 25	In-person lecture: for all
Nov 25	Deadline for submission of all optional assignments.
13. Topics	Case studies and review
	Recorded lecture
Nov 30*	Remote session 5b: student presentations, discussion, Q&A; for remote students
Dec 2	Lecture/Review session on zoom: for all (last class)

6. EXERCISES

Letter to the Editor: optional

Each student will find an article in a newspaper that is related to any part of our course or to any issue related to sustainability. You can show me the article ahead of time if you are wondering if it is appropriate for the assignment. Letters to the editor should be full of passion, clear writing and should display the use of concepts from the course. Pick a controversial article or one that is easy to critique (have a look at the National Post, the Globe and Mail, the Montreal Gazette – they are on the web and in the Concordia library). Your grade will be based half on the use of concepts from the course in your arguments (passion is great, but we also want logical arguments based on science, but don't come across too much like a science geek) and half on the clarity of writing. **See my note about plagiarism in the course outline. I want to see your thoughts and words – do not copy from other sources.**

Here are the rules:

Write 200-300 words (I will stop reading at 300 words). See examples in newspapers. Deadline for submission: the sooner the better; email it to me anytime on or before Nov 25 – late penalty is -10% per day. Marking will be more lenient for submissions early in the semester. When you submit, email me a link/copy of the **original newspaper article**. Grading: 50% on clear, logical writing; 50% on your use of sustainability concepts in a non-technical manner.

I also encourage you to submit your letter to the newspaper for publication. If you get it published in a reputable* newspaper (and can provide evidence), I will add **2.5 marks** to your overall grade out of 100. You might want to shorten your letter before submitting it to a newspaper. You can try for this bonus mark more than once. I will accept letters published in the Globe and Mail, the National Post, and the Montreal Gazette. Other newspapers are possible, but check with me first. If you want to get published, submit within 48 hours of the original article appearing in print.

Participation in Tuesday Synchronous Sessions: optional

I will allow up to two students to present per class on Tuesdays. To encourage students to continue to participate during these sessions, I will give an optional participation grade, which will reduce the value of the midterm test. Write me one thoughtful chat (for Zoom classes) or email (for in-person classes) of 2-3 sentences about one of the video critiques or the papers/topics under discussion that day or week. I always stay online or in the classroom to answer questions after class, so you will have time to write your chat/email during class time. You can participate **in** up to 5 for a total grade of 5% (1 point each for the first 5). If you cannot attend on a particular week, you can still attend in the alternate week.

Attend and critique an event: optional

Attend a lecture, seminar, film screening, debate etc that is relevant to the subject of sustainability. Submit your critique of the event within 7 days, using the form posted on moodle.

Present a video to the class: optional

Students can find a short youtube video (max 3 minutes) to present to class – run it by me first. The student should provide a brief introduction to the video (1 minute) by explaining how it is related to the content of the course or the principles of sustainability. Afterwards, the student will provide a critique of the video and/or say why it is important (2-4 minutes) for a maximum of 5 min (-10% if > 5min), after which they will answer questions from class. Grading rubric: 50% for clarity of presentation and answers; 50% for critical thinking and application of sustainability principles in the critique.

The rules for booking an optional oral during class time

1. I can only accommodate 2ish presentation per Tuesday class, so first come, first served regarding the scheduling of oral presentations in class. Start early in the semester! Once we agree on a date for your oral, you must give me at least one week of notice if you decide to cancel (so I can let other students know about the availability – if not your grade will be 0).
2. Show up **early** for the session on the day of your presentation so that we can try screen sharing with your computer or load your presentation on my computer.
3. I recommend using PowerPoint, or its equivalent, for ease of communication with your classmates. I would like to record your presentation for students who are not able to be present live, but let me know if you prefer not to be recorded.
4. Because we have fewer live sessions than in a normal year, you can also book a pre-recorded offline version. The easiest way is to send me your powerpoint with your recorded voice.

Personal project: optional

I encourage students to come up with a creative project to be completed alone or in pairs. Pitch me an idea and we can decide on how much it will be worth. Examples of past projects include: book report, research project, compiling a cookbook, monitoring your ecological footprint, writing a blog, posting an original video etc.

7. TUTORIALS

The schedule will be posted in a separate document by the TA.

Student Presentations during Tutorials

Students (alone or in pairs) can participate in the teaching of the course during tutorials. Students can present a short seminar of 10 minutes (20 minutes for pairs; the time allocated for each student will depend on the final enrolment in the class) in duration, leaving time for questions, debate and discussion. I want these presentations to be lively, interactive sessions. Presentations will provide detailed analyses of topics or case studies in the literature to complement the broader-brush approach taken in lecture. Some possible seminar topics include:

The pros, cons or both of:

Genetically modified crops

Increasing urbanization

Electric vs gasoline cars

Organic farming

Oil pipelines vs trains

Farmed salmon vs farmed steak

Triaging endangered species

Culling wolves or moose to save woodland caribou

Tolls on bridges

Hunting/Sport fishing

Aquaculture

Indigenous issues

Fashion industry

Nuclear power

Hydroelectric power

Whatever strikes your fancy – run it by the TA or me

Sign up for a topic (or come up with one) and date with the TA. Each student or pair has to find a short paper on your subject that is published in an academic or popular science journal as a reference for students in the tutorial. Email the TA a pdf of the paper one week before your seminar. Students in the tutorial will read the paper before the presentation and email their comments to the TA before midnight on the day before the tutorial.

8. IMPORTANT RESOURCES

1. Chair of Biology: Dr. Daya Dayanandan, SP-375.1, daya.dayanandan@concordia.ca, ext. 3390

2. Undergraduate Program Asst., Biology: Ms. Leonie Morris, SP-375.9, leonie.morris@concordia.ca, ext. 3400

3. Access Centre for Students with Disabilities: concordia.ca/students/accessibility

2. Student Success Centre: concordia.ca/students/success

3. Head of Advising for Biology: Dr. Ian Ferguson, SP-375.27, ian.ferguson@concordia.ca, ext. 3425

4. Counselling and Psychological Services:

concordia.ca/health/mental/counselling.html?utm_source=redirect&utm_campaign=counselling

5. Concordia Library Citation and Style Guides: <https://library.concordia.ca/help/citing>

6. Health Services: <https://www.concordia.ca/health/medical/clinic.html>
7. Financial Aid and Awards: [concordia.ca/offices/faao](https://www.concordia.ca/offices/faao)
8. Academic Integrity: [concordia.ca/students/academic-integrity](https://www.concordia.ca/students/academic-integrity)
9. Dean of Students Office: [concordia.ca/offices/dean-students](https://www.concordia.ca/offices/dean-students)
10. International Students Office: [concordia.ca/students/international](https://www.concordia.ca/students/international)
11. Student Hub: [concordia.ca/students](https://www.concordia.ca/students)
12. Sexual Assault Resource Centre: [concordia.ca/students/sexual-assault](https://www.concordia.ca/students/sexual-assault)
13. Indigenous Student Resources: <https://www.concordia.ca/students/otsenhakta.html>
14. As a member of the Concordia Student Union you and have many resources available to you at:
<https://www.csu.qc.ca/>