

The syllabus below is based on the most recent iteration of this course, and should give a clear indication of the broad thematic content and structure. However, each iteration of this course is novel, and so the precise theme for the upcoming course is currently under development and will be posted later. See <https://www.queensu.ca/terrestrial-ecosystem-ecology/teaching/biol-510-biogeochemistry-and-global-change> for information on all previous iterations of this course

BIOL 510

The Biology of Sustainability

Fall Term (2021)

CALENDAR DESCRIPTION

BIOL-510 (3.0) The Biology of Sustainability

This ecology course is aimed at identifying and critiquing potential mechanisms by which our civilization could most effectively move toward more sustainable living. This topic incorporates biogeochemical, ecological, economic, social, genetic and behavioural features and constraints. Each iteration of the course will focus on a specific thematic question related to at least some of those components.

The course is for final year undergraduates and is specifically aimed at enhancing their capacities for critical thinking, intelligent open discussion, group work, and independent learning. Emphasis will be on interactive discussions and student-led seminars in which participants will have ample opportunities to explore, analyze and synthesize scientific information, to learn how the scientific process works, to speak and write effectively, and to develop their understanding of the philosophies underlying human behaviour and how they relate to global change issues, and the sustainability of our current civilisation.

Professor: P. Grogan **PREREQUISITES** BIOL 300 strongly recommended.

LEARNING HOURS 120 (36S; 12T; 12G; 36I;12O; 12P)

SCHEDULE

Seminars: To be determined

Instructor	Dr. P. Grogan
Instructor Contact	(groganp@queensu.ca – Phone 613-533-6152)
Office Hours	TBA
TA:	Not applicable
TA Contact Information	Not applicable
Office Hours	Not applicable

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Teaching method		Average hours per week	Number of weeks	Total hours
In-class hours	Lecture			
	Seminar	3	12	36
	Laboratory			
	Tutorial	1	12	12
	Practicum			
	Group learning	1	12	12
	Individual instruction	3	12	36
Other	Online activity	1	12	12
	Off-campus activity			
	Private study	1	12	12
Total hours on task				120

Course Outline

The 2020 course is subtitled: **Biology and Sustainability: Linkages to buddhist and indigenous philosophical perspectives**

The principal question that the 2020 course will address is:

What conceptual linkages between Biology and the philosophical perspectives of Buddhism and indigenous cultures would be most useful in promoting sustainable living?

Students will lead informal seminar discussions on some component of this theme that is of particular interest to them. The 2020 course will be largely focussed on reading and discussion of biology professor David Barash's 2013 book *Buddhist Biology. Ancient Eastern Wisdom meets Modern Western Science*, but will also include a substantial North American indigenous component including associated readings and activity exercises/workshops.

Learning Outcomes

By the end of this course, the student should be able to:

1. Critically assess the constraints (ecological, economic, social, behavioural and political) that underlie society's current responses to global change issues
2. Discuss, explain, and critique the similarities and differences in fundamental philosophical concepts between contemporary Buddhism and Indigenous cultures that relate to Biology and Sustainability
3. Formulate clear, original, challenging, and concise thematic questions from study reading material that are likely to lead to focussed and intellectually probing seminar group discussions, student-led seminar topics or short essay writing pieces
4. Search, critically assess, and synthesize primary and secondary literature in the natural and social sciences
5. Develop and present a cohesive, original, synthesis essay on the potential of contemporary Buddhist and Indigenous philosophical perspectives to promote more sustainable living

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Textbooks/Readings

Reading list to be provided at beginning of the course and further required readings will be chosen by the students as the course progresses.

Website: <https://www.queensu.ca/terrestrial-ecosystem-ecology/teaching/biol-510-biogeochemistry-and-global-change>

Grading Scheme

Component	Weight (%)	Date
Active participation in discussions (questions, comments, suggestions)	15%	Ongoing
Seminar written questions	15%	Ongoing
Seminar presentation	35%	TBA
Term essay paper	35%	TBA

Grading Method

All components of this course will receive numerical percentage marks. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to Queen's Official Grade Conversion Scale.

Your course average will then be converted to a final letter grade according to Queen's Official Grade Conversion Scale:

Queen's Official Grade Conversion Scale

Grade	Numerical Course Average (Range)
A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	49 and below

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Statement on Academic Integrity

Academic Integrity is constituted by the six core fundamental values of honesty, trust, fairness, respect, responsibility and courage (see www.academicintegrity.org). These values are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University (see the Senate Report on Principles and Priorities <http://www.queensu.ca/secretariat/policies/senate/report-principles-and-priorities>).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar (see Academic Regulation 1 <http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations/regulation-1>), on the Arts and Science website (see <http://www.queensu.ca/artsci/academics/undergraduate/academic-integrity>), and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

Accommodations for Disabilities

Queen's University is committed to achieving full accessibility for people with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. The Senate Policy for Accommodations for Students with Disabilities was approved at Senate in November 2016 (see <https://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslclwww/files/files/policies/senateandtrustees/ACADACCOMMPOLICY2016.pdf>). If you are a student with a disability and think you may need academic accommodations, you are strongly encouraged to contact the **Queen's Student Accessibility Services (QSAS)** and register as early as possible. For more information, including important deadlines, please visit the QSAS website at: <http://www.queensu.ca/studentwellness/accessibility-services/>

Academic Consideration for Students with Extenuating Circumstances

Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances that are beyond their control and are interfering with their ability to complete academic requirements related to a course for a short period of time, not to exceed three months. Students receiving academic consideration must meet all essential requirements of a course. The Senate Policy on Academic Consideration for Students in Extenuating Circumstances was approved at Senate in April, 2017 (see <http://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslclwww/files/files/policies/senateandtrustees/Academic%20Considerations%20for%20Extenuating%20Circumstances%20Policy%20Final.pdf>) Each Faculty has developed a protocol to provide a consistent and equitable approach in dealing with requests for

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academic consideration for students facing extenuating circumstances. Arts and Science undergraduate students can find the Faculty of Arts and Science protocol and the portal where a request can be submitted at: <http://www.queensu.ca/artsci/accommodations>. Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty.

If you need to request academic consideration for this course, you will be required to provide the name and email address of the instructor/coordinator. Please use the following:

Instructor/Coordinator Name: Dr. Paul Grogan

Instructor/Coordinator email address: groganp@queensu.ca

Turnitin Statement

Queen's University has partnered with the third-party application Turnitin to help maintain our standards of excellence in academic integrity. Turnitin is a suite of tools that provide instructors with information about the authenticity of submitted work and facilitates the process of grading. Submitted files are compared against an extensive database of content, and Turnitin produces a similarity report and a similarity score for each assignment. A similarity score is the percentage of a document that is similar to content held within the database. Turnitin does not determine if an instance of plagiarism has occurred. Instead, it gives instructors the information they need to determine the authenticity of work as a part of a larger process.

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