

Faculty of Science Course Syllabus (revised June 2018)
Department of Biology
BIOL 4065 Sustainability and Complexity
Fall 2019

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Lectures: Thursdays, 1:35 - 4:25 PM in Life Sciences Center, Dept of Biology, Room 812

Course Description

Sustainability is a transdisciplinary area integrating equitable societies, protected environments, and robust economies. Achieving sustainability is a challenge that to date has had limited success in our complex world. Complexity studies offer new approaches for achieving sustainability beyond the traditional ones that have been mostly focused upon reducing unsustainability and using the machine model as a worldview.

Course Prerequisites

PREREQUISITES: BIOL 2060.03 (or BIOA 3001.03) or EARTH 2410.03 or GEOG 2100X/Y.06 or GEOG 2201.03 or GEOG 2202.03 or INTD 2001.03 or INTD 2002.03 or OCEA 2001.03/2002.03 (or OCEA 2000X/Y.06) or SUST 2000.06 or SUST 2001.06

RESTRICTIONS: E1, E2, E3 Restricted to students in: Faculty of Science, College of Sustainability and International Development students in FASS

Course Objectives/Learning Outcomes (Be able to:)

1. Interpret sustainable development (SD) as a trans-disciplinary concept.
2. Outline the history of diverse ideas and approaches that led to the global adoption of SD.
3. Describe some of the major controversies in SD especially over “what is to be sustained”.
4. Understand complexity as an emerging worldview and its potential applications for human development.
5. Contrast North and South SD approaches - could complexity help bridge the gap?
6. Explain how reducing unsustainability is not the same as achieving sustainability
7. Use complexity concepts in critical thinking about sustainability.
8. Make use of a variety of sustainability tools, methodologies, and models.
9. Design and deliver a creative, insightful presentation that integrates sustainable development and complexity.

Course Materials:

No textbook but extensive use of journal papers, websites, and course website on Brightspace.

Course Assessment

Component	Weight	Date/(Points per date)
Tutorial Participation (2-6)	5%	All: Sept 12, Sept 19, Sept 26; Oct 3, Oct 10 (1 pt./date)
Group Presentations on Tutorial Country Analysis	10%	October 17
Tutorial Book	13%	Oct. 17
Discussion Leader	10%	One of following: Sept 12, Sept 19, Sept 26; Oct 3, Oct 10
Assignment (1-3)	30%	Three dates of: Oct 24, Oct 31, Nov 7, Nov 21 (10 pts. ea.)
Presentation (1)	20%	One of following: Oct 24, Oct 31, Nov 7, Nov 21, Nov 28
Attendance (10)	12%	Every class (1 pt./class)
TOTAL %	100%	

Other course requirements

Presentations, tutorial activities, study units with website visits, lead and participate in class discussions

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D (50-54)
A (85-89)	B (73-76)	C (60-64)	F (<50)
A- (80-84)	B- (70-72)	C- (55-59)	

You will not receive a letter grade lower than what is indicated for your final point value listed above, although the professor reserves the right to give a higher grade. Because the scale is generous for A's and B's (30 points) as compared to C's and D's (20 points), individual marks will only be rounded up if the student has more than 0.50 above the maximum value for a particular letter grade. For example, if you received 79.51 points, you would receive an A in the class and not a B+. If you received 79.49 points, you would receive a B+ and not a A-.

Course Policies (See also university policies and websites on last page of this syllabus.)

Absences

Use the Student Declaration of Absence form for missed academic requirements in this course, if you are ill for more than 3 consecutive days (not 3 class days) as per university policy. A submission site for your declaration is given on the class website. Two submissions are permitted per term. The possibility of making up late work is at the discretion of the professor. For longer illnesses, you will need a medical excuse and a meeting with the professor.

Individual Work

All work in this class is to be done individually except the in-tutorial discussions and when your group leads a discussion. Your tutorial book submissions should be your own individual work. Do not collaborate on assignments or the midterm.

Late Assignments and Extensions:

Any material submitted for evaluation after the designated deadline will have marks deducted at the rate of 10% per day late including weekends. Extensions without the mark penalty will be given only with a valid medical or other excuse as approved by the professor. If you file a student declaration for a short-term absence from class, you need to follow-up with Dr. Lane on how the missing work will be made up. Missing tests is a serious problem and you must inform Dr. Lane why you will not take the test no later than 9 pm on the night before the test. Failure to do this could result in you not having the opportunity for a retest.

Marking:

Although assignments will have a detailed point distribution for marking, the Teaching Assistant has discretionary power to deduct additional points (up to 10%) for overall sloppy writing, poor grammar and spelling, messy format, inadequate referencing, and overall inferior quality of the assignment. All assignments are to be typed and spell & grammar-checked before submission. The final grade that you receive in a class is the sum total of the work that you did and the knowledge that you gained. A grade is something that you earn. If you require a final grade at a particular level for an honours degree, job, graduate or professional school, or other purpose, you should ensure that you put the time and effort in during the term to earn that grade. The Professor is willing to give you extra help and study assignments if you believe that you are not achieving a satisfactory level of proficiency in the class. Please do not come at the end of the term requesting a higher grade because you need it to fulfil a requirement, enter graduate school, you worked hard, or because you paid your tuition. These are not satisfactory reasons. It is unfair to the other students in the class who have done the work, and to the university, which has to maintain fair and high standards of academic achievement.

Office Hours:

By appointment

Plagiarism

Plagiarism software (Urkund) will be used in this course for the three assignments. On the day your assignment or test is due, you need to submit a paper copy in class and an electronic and identical version on-line at the class website by midnight of the same day. All instances of suspected plagiarism will be reported promptly to the Academic Integrity Officer of the Faculty of Science.

Use of Electronic Equipment in Class:

The use of cell phones, both calls and texts, during class is strictly forbidden. Cell-phones and other communication devices should be set to vibrate during class. No electronic devices are allowed during the midterm test when they need to be placed at the front of the room.

Room 812

Our class room is one of the nicest in the building and we would like to keep it. The eighth floor houses the Faculty of Science and the Dean's and staff offices and people are working close to the hallways. Thus, when you're coming to and from the classroom try to be very quiet.

BIOL. 4065 Sustainability and Complexity 2019 Class Schedule

WEEK	DATE- Thursdays	LECTURE/DISCUSSION/TUTORIAL	ASSIGNMENTS
1.	Sept 5	Lecture 1-Introduction to Sustainability, Complexity, & Wicked Problems Formation of Discussion/Tutorial Groups: A-E & Select Countries and Presentation Topics	Study Unit 1 Reading 1 All Discuss
2.	Sept 12	Lecture 2-The World Is Complex and Unsustainable Discussion 2 on Reading-Group A Tutorial 2- Study Country & Human Development Index	Study Unit 2 Reading 2 Group A Lead Discussion
3.	Sept 19	Lecture 3-Complexity Theory and Paradigm Shift Discussion 3 on Reading-Group B Tutorial 3-HDI and the Ecological Footprint	Study Unit 3 Reading 3 Group B Lead Discussion
4.	Sept 26	Lecture 4-How Can Societies Manage Sustainability? Discussion 4 on Reading -Group C Tutorial 4-Comparing Development & SD Indicators	Study Unit 4 Reading 4 Group C Lead Discussion
5.	Oct 3	Lecture 5-Sustainability/Complexity in Human Development-Cuban Case Study Discussion 5 on Reading-Group D Tutorial 5-SD Goals and Index	Study Unit 5 Reading 5 Group D Lead Discussion
6.	Oct 10	Lecture 6-Sustainability/Complexity in the Global Economy and Conclusions Discussion 6 on Reading-Group E Tutorial 6-Case Study-SWOT & Presentation Planning	Study Unit 6 Reading 6 Group E Lead Discussion Submit Twin Statement For Weeks 8-12 Submit Presentation Topic & Finalize Schedule
7.	Oct 17	Group Presentations on Study Country Analysis Summary-Dr. Lane	Give Presentations Submit Tutorial Booklet
8.	Oct 24	Group A Individual Presentations Wicked Problems about Terrestrial Biodiversity	Assignment 1* Reading 8
9.	Oct 31	Group B Individual Presentations Wicked Problems about Marine Biodiversity	Assignment 2* Reading 9
10.	Nov 7	Group C Individual Presentations Wicked Problems about Climate Change	Assignment 3* Reading 10
	Nov 11-15	STUDY WEEK-NO NEW ASSIGNMENTS	
11.	Nov 21	Group D Individual Presentations Wicked Problems about Equitable Societies & Poverty	Remaining Assignments Due
12.	Nov 28	Group E Individual Presentations Wicked Problems about Green Economy	If you are presenting on a date when Assignment 1 or 2 or 3 is due, you may submit your assignment at the beginning of the Nov 21st class. (1 late submission per student)

Faculty of Science Course Syllabus (Section B) (revised June-2018)

BIOL 3061 Communities and Ecosystems (Fall 2019)

University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

Statement: <http://www.dal.ca/cultureofrespect.html>

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus_life/communities/indigenous.html

Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important_dates.html

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Missed or Late Academic Requirements due to Student Absence (policy)

https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html

Student Resources and Support

Advising

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: <https://www.dal.ca/faculty/science/current-students/academic-advising.html>

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: <https://libraries.dal.ca/>

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: <https://libraries.dal.ca/services/copyright-office.html>

Fair Dealing Guidelines <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html

Student Advocacy: <https://dsu.ca/dsas>

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Biosafety: <https://www.dal.ca/dept/safety/programs-services/biosafety.html>

Chemical Safety: <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>

Radiation Safety: <https://www.dal.ca/dept/safety/programs-services/radiation-safety.html>

Scent-Free Program: <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>