

Dalhousie University SEASIDE Program

BIOL 3066 Plant Ecology –syllabus

Instructor: Karen Harper, karen.harper@Dal.ca, Office: Rowe 5030, 494-6355

Assistant:

Course website: ILO – OWL; lecture material will be posted before the course

Pre-requisite: BIOL 2060 Introductory Ecology

Course description: Explore various plant communities around Halifax including deciduous and coniferous forests, wetlands, coastal barrens, salt marshes, sand dunes, recently burned forest and a green roof. This field-intensive class provides an in-depth focus on the study of plants and their habitat. After learning about and discussing plant dispersal, herbivory, competition, succession and other topics, field trips and lab activities will enable students to obtain experience with field sampling as well as data analysis. Several half-day and 3 full day field trips will be taken to sites around Halifax, many accessible by walking or bus. Evaluation will include an examination of lecture material and the results of field research projects written up in scientific paper format and given as oral presentations to the class.

Lecture and discussion: 9:05-11:30 in LSC 4009 except days with all-day field trips

Field trips and labs: 9:00-16:55 or 12:30-16:55 in various locations, times may vary

- * Meeting locations and times will be announced in class. We will leave on time.
- * Transportation will be walking, city bus or rented mini-vans.
- * For field trips, wear long pants and good running shoes or preferably hiking or waterproof boots. Bring backpack, hat, sunscreen, water, food (lunch or snack), waterproof field notebook (provided), pencil, jacket and/or raingear. The following items are optional: bug shirt or repellent, plant field guides, binoculars, GPS, camera, hand lens.
- * Any changes in dates, times or locations will be announced in class.

Required textbook and notebook

Gurevitch, J., S.M. Scheiner and G.A. Fox. 2006. The Ecology of Plants. Sinauer Associates, Inc. Sunderland, Massachusetts, U.S.A.

Waterproof 'Rite in Rain' field notebook. Available in class.

Pedagogical approach and learning materials

Classes will consist of presentations and discussions, in-class exercises, computer simulation labs, field trips to local ecosystems and student presentations. This course will be paper-free as much as possible. The following will be posted on OWL before the first class: course outline, lectures as both PowerPoint and pdf files, links to relevant websites, and any other material for the lecture or laboratory. The material for lecture will not be complete; many essential details will be presented and discussed in class.

Evaluation

* This course follows the grading scheme of core Biology classes.

Class participation (10%): The effectiveness of the class depends on everyone attending class, completing the assigned readings and being present as well as participating in lecture, discussion and field trips. You will be graded on all of these aspects of your participation. Attendance is mandatory. Participation is encouraged and required for full marks.

*Quizzes (3*10=30%):* There will be three quizzes on the lecture material on July 9, 13 and 20.

Lab assignments (20%): There will be various lab assignments that will be given out following field trips; due dates will be given in class.

Individual research proposal and project report (25+15%): Throughout the course, students will develop, conduct and write up their own research project in Point Pleasant Park. Students will work in teams of 3-4 to develop an idea for a project and to collect data. However, individual students will come up with their own objectives for their part of the project. A research proposal, written individually, will be submitted at the end of the first week on July 6. Students will collect and analyze data during the next two weeks. Data collection will be done as a group but data analysis and writing the report will be done individually. A formal written report will be submitted by each student on or before July 20.

Group presentation (15%): Group presentations will be given on the research projects, 30 minutes per group, on July 20. The same grade will be given to each member of the group.

Policies

Assignments should be submitted online through the course website. Correct use of language is one of the criteria included in the evaluation of all written assignments. Assignments submitted late without an approved extension or unaccompanied by a doctor's note will be deducted 20% per day. University regulations on plagiarism and cheating and other academic offenses will be strictly enforced (see details on the last two pages). There will be no make-up quizzes. If a quiz is missed due to illness or other serious reason (for which documentation has been provided) then the other quizzes will be re-weighted. Absence from a quiz without a signed note will result in a grade of zero.

Schedule and course content (subject to change)

Following an introduction, we will approach the study of plant ecology by considering individuals, populations, communities and landscapes. We will apply concepts from the lectures to a computer simulation lab, field trips, field sampling and data analyses.

Class activities
1. Introduction to the course and to plant ecology
2. <i>Field trip*</i> : Chain Lakes (lake ecosystem)
1. Individuals: Light, Water
2. <i>Field trip*</i> : Wetlands
<i>ALL-DAY field trip**</i> : Chezzetcook Inlet (salt marsh)
1. Individuals: Soil; Populations: Structure
2. <i>Field trip*</i> : Point Pleasant Park (data collection)
1. Lecture quiz
2. Populations: Growth, Life history
3. <i>Field trip*</i> : Green roof at Saint Mary's University
1. Communities: Properties, Interactions among plants
2. <i>Field trip*</i> : Hemlock Ravine (urban park, hemlock forest)
1. Communities: Interactions with other species, Disturbance and succession
2. Lab: Data analysis
<i>ALL-DAY field trip**</i> : Peggy's Cove (coastal barrens)
1. Lecture quiz
2. Communities: Diversity; Ecosystems
3. <i>Field trip*</i> : Spryfield fire, York Rideout
1. Landscapes: Communities, Patterns
2. <i>Field trip*</i> : Point Pleasant Park (data collection)
1. Global patterns: Biomes, Global diversity
2. Lab: Data analysis
1. Applied plant ecology: Climate change
2. Lab: Computer simulation
1. Lecture quiz
2. Student presentations

* Transportation by walking or city bus. Meeting time and place TBA.

** Transportation by rented bus. Meeting time and place TBA.

Intellectual Honesty *(from the Undergraduate Calendar - ug.cal.dal.ca/UREG.htm#I10)*

A university should be a model of intellectual honesty. As such Dalhousie University shares in the academic values of honesty, trust, respect, fairness and responsibility (Centre for Academic Integrity, 1999 - of which Dalhousie University is a member). Failure to meet the University's standards with respect to these values can result in an academic offence. The length of time a student has attended university, the presence of a dishonest intent and other circumstances may all be relevant to the seriousness with which the matter is viewed. Violations of intellectual honesty are offensive to the entire academic community, not just to the individual faculty member and students in whose class an offence occurs.

Instructors are responsible for setting examinations and assignments as part of the learning process and for evaluating those examinations and assignments, including ensuring that any rules stated for the procedures used in an examination or assignment are followed. Any violation of such stated rules that could result in a student gaining an unfair or unearned advantage may be considered to be an academic offence.

Examples of Academic Offences - There are many possible forms of academic dishonesty. Since it is not possible to list all instances of academic dishonesty, the following list of examples should be considered only as a guide. The omission of a dishonest action from this list does not prevent the University from prosecuting an alleged instance of that action.

A. Plagiarism - Members of academic communities are privileged to share in knowledge generated through the efforts of many. In return, each member of the community has the responsibility to acknowledge the source of the information used and to contribute knowledge that can in turn, be trusted and used by others. The University attaches great importance to the contribution of original thought to learning and scholarship. It attaches equal importance to the appropriate acknowledgement of sources from which facts and opinions have been obtained.

Dalhousie University defines plagiarism as the submission or presentation of the work of another as if it were one's own. Plagiarism is considered a serious academic offence that may lead to the assignment of a failing grade, suspension or expulsion from the University. If a penalty results in a student no longer meeting the requirements of a degree that has been awarded, the University may rescind that degree.

Some examples of plagiarism are:

- failure to attribute authorship when using a broad spectrum of sources such as written or oral work, computer codes/programs, artistic or architectural works, scientific projects, performances, web page designs, graphical representations, diagrams, videos, and images;
- downloading all or part of the work of another from the Internet and submitting as one's own;
- the use of a paper prepared by any person other than the individual claiming to be the author.

The proper use of footnotes and other methods of acknowledgement vary from one field of study to another. Failure to cite sources as required in the particular field of study in the preparation of essays, term papers and dissertations or theses may, in some cases, be considered to be plagiarism. Students who are in any doubt about how to acknowledge sources should discuss the matter in advance with the faculty members for whom they are preparing assignments. In many academic departments, written statements on matters of this kind are made available as a matter

of routine or can be obtained on request. Students may also take advantage of resources available at writingcentre.dal.ca or the Dalhousie Libraries at library.dal.ca/services/infolit.

B. Irregularities in the Presentation of Data from Experiments, Field Studies, etc.

Academic research is based on the presentation of accurate information and data that are obtained honestly. The trustworthiness of our findings is essential to building knowledge in and across fields of study. Therefore, the falsification of data in reports, theses, dissertations and other presentations is a serious academic offence, equivalent in degree to plagiarism, for which the penalties may include the assignment of a failing grade, suspension or expulsion from the University or the withdrawal of a degree previously awarded.

C. Other Irregularities - Dalhousie University strives to provide equal opportunities for learners to demonstrate and to be recognized for their abilities. Any behaviour intended to gain unearned advantage over another person violates this principle. A member of the University who attempts, or who assists any other person in an attempt, to fulfill, by irregular procedures, any requirements for a class, commits an academic offence and is subject to a penalty.

In the absence of specific approval from the instructor, all students should assume that every assignment is to be completed independently, without any form of collaboration.

Students should take reasonable precautions to prevent other students from having access, without permission, to their tests, assignments, essays or term papers.

The following are some examples of irregular procedures. The list should be used only as a guide since it is not possible to cover all situations that may be considered by the Senate Discipline Committee to be irregular.

- writing an examination or test for someone else;
- attempting to obtain or accepting assistance from any other person during an exam or test;
- during the time one is writing an examination or test, having material that is not specifically approved by the instructor;
- without authorization, obtaining a copy of an exam or test, topic for an paper, or other work;
- without authorization from the faculty member in charge of that class, submitting any work for academic credit when one is not the sole author or creator;
- without authorization submitting any work that has been previously accepted for academic credit in any other class in any degree, diploma or certificate program, or has been completed as part of employment within the University, for example, as research activity. A repeated class is considered to be a separate class.

D. Aiding in the Commission of an Academic Offence - No student may encourage or aid another student in the commission of an academic offence, for example,

- by lending another student an assignment knowing that he or she may copy it for submission;
- by allowing another student to copy answers during an examination.

E. Misrepresentation - Any person who provides false or misleading information during an investigation of a suspected academic offence is guilty of an offence.