

Plant Ecology, EBIO 4140

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Course Objectives

My overall goal in this course is to have students become excited and passionately interested in the plant world! How do I plan to do achieve this goal? In this course we will cover a wide range of topics related to plants and how they interact with their environment, topics which draw from a range of disciplines from plant organismal to global ecology. In order to better understand and apply the topics that are covered this semester, I have outlined a number of activities that not only examine plant ecology as a discipline but how knowledge of plants ecology helps us to make decisions about current issues in our environment.

Grading and Policies:

Exam 1 (In Class): 20%

Plant Current Events and Hot Topics: 5%

Hometown Botany Paper (2 page paper): 10%

Lead Policy Discussion: 15%

Policy Summary Paper (4 page paper with references): 15%

Final Exam (Take Home): 20%

Participation (Attendance 10% + Self Evaluations 5%): 15%

Exams —There will be two exams in this course. The first will be conducted as an in-class exam and the second will be a take-home exam.

Plant Current Events and Hot Topics — Each of you will sign up to give a 2-3 minute presentation at the beginning of a class on some current event or topic regarding plants. I will pass out a signup sheet for presentations during the first week of class. We will do hot topics at the beginning of each class.

Hometown Botany — Do you know what type of ecosystem you grew up in or if you have moved around throughout your life the range of ecosystems that you have experienced? In this 2 page paper you will describe the ecosystem and plant communities of your hometown or hometown of choice if you have lived in several places.

Policy Discussion—We will have 4 in-class “policy discussions” during the semester. The primary objective in holding these discussions is to apply the information that has been presented during the previous weeks of class to a real world and current situation. The theme of these policy discussions will be climate change. Since we have a class of approximately 40 students we will divide into 5 “working groups” of 8 students. Two students from each group will sign up to lead one policy discussion during the semester. In your working groups you will address one question or issue that will be addressed by the group. For example, for the first policy discussion I will ask the groups to make some predictions of future impacts of climate change on plant productivity. Based on what you have learned in the previous weeks regarding plant responses to water, nutrients, and light you will come up with a policy recommendation or more realistically a set of unknown factors that would need to be addressed before you could possibly make a policy recommendation from your working groups. I will bring a

laptop cart to class for the policy discussion so your groups are able to research each issue. Policy discussions will be graded anonymously by your working group.

Policy Summary Paper — After you have lead your policy discussion you will be asked to further research and summarize the findings in a 2 page paper.

Participation—I hope to increase your learning and long-term retention of the topics covered this semester by conducting a range of activities that accommodate different learning styles. Since grading participation may be a highly qualitative and subsequently difficult task, I will grade participation in a different way than many other courses. The overall course participation grade will be based on class attendance and a final self evaluation. At the end of the semester your learning journal will be used to write a 1-2 page “self evaluation” of your progress throughout the semester. I will provide a handout describing what the final self evaluation should look like and provide tips on writing the evaluation. The best way to track your progress throughout the semester is to keep a “learning journal.” This doesn’t have to be elaborate but can serve as a reminder of how you have progressed throughout the semester. This journal may contain weekly journal entries that pertain to class activities that week and notes documenting your participation in class in general. In this journal you may discuss specific knowledge and skills you have obtained with each week’s activities and discuss how the things you have learned may apply to your life or how information from this course may have changed your views. These two components (attendance and the self evaluation) in addition to my overall impression of your participation throughout the semester will lead to your final participation grade.

Required Text:

The Ecology of Plants, Second Edition, 2006. Gurevitch, Scheiner and Fox. Sinauer Associates, Inc. (NOT IN BOOKSTORE, PLEASE GET FROM AMAZON OR OTHER SOURCE)

In addition to the textbook I will post additional journal articles to CU Learn for the policy discussions.

Disability Policy:

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and www.Colorado.EDU/disabilityservices

Disability Services' letters for students with disabilities indicate legally mandated reasonable accommodations. The syllabus statements and answers to Frequently Asked Questions can be found at www.colorado.edu/disabilityservices

Policy on religious observances:

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. If you foresee any conflicts with this class schedule, please see me at the beginning of the semester to make arrangements. See full details at http://www.colorado.edu/policies/fac_relig.html.

Classroom Behavior Policy:

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at

<http://www.colorado.edu/policies/classbehavior.html> and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code

Policy on Discrimination and Harassment:

The University of Colorado at Boulder policy on Discrimination and Harassment (<http://www.colorado.edu/policies/discrimination.html>), the University of Colorado policy on Sexual Harassment and the University of Colorado policy on Amorous Relationships applies to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the ODH and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>

Student Honor Code:

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at <http://www.colorado.edu/policies/honor.html> and at <http://www.colorado.edu/academics/honorcode/>

E-mail Correspondence: I consider e-mails that are exchanged between myself and students to be professional correspondence and should be conducted in that manner. We all exchange informal e-mails with friends, family, and colleagues but class e-mails should be considered a professional exchange of information. I have listed some general tips on how to send a professional e-mail:

1. Salutation: Professor Barger, Dr. Barger, Nichole
2. Body of message: Complete sentences, capitalization, and punctuation
3. Closing: not always necessary but if you are asking a huge favor a "thanks" always helps.
4. Sign your name. It isn't always apparent from e-mail addresses who the message came from.

Hours: I will be available by e-mail during normal “business hours” which is 8am-6pm Monday-Friday. I will not respond to e-mails late at night or over the weekend. If you do send e-mail on the weekend or late at night I will respond by the next business day.

EBIO 4140 Class Schedule- Fall 2009

Week #	Date	Day	Lecture or Activity	Readings and Due Dates
1	Aug 25	T	Class Introduction	
	Aug 27	TH	Campus Plant Tour and Organization of Working Groups	
			INDIVIDUAL PLANT NEEDS	
2	Sep 1	T	Light and photosynthesis I	Chapter 2
	Sep 3	TH	Light and photosynthesis II	
3	Sep 8	T	Water Relations I	Chapter 3
	Sep 10	TH	Water Relations II	
4	Sep 15	T	Plant Nutrients and Soils I	Chapter 4
	Sep 17	TH	Plant Nutrients and Soils II	
5	Sep 22	T	Policy Discussion 1: Predicting climate change impacts on plant productivity	Hometown Botany paper due
			PLANT POPULATIONS	
	Sep 24	TH	Evolutionary Processes	Chapter 6
6	Sep 29	T	Growth and reproduction	Chapter 7 Policy Discussion 1 Paper Due
	Oct 1	TH	Life Histories	Chapter 8
			PLANT COMMUNITIES	
7	Oct 6	T	Guest Lecture: Herbivory and Plant-Pathogen Interactions –Professor Deane Bowers	Chapter 11
	Oct 8	TH	Guest Lecture: Community Properties and Competition-Bill Bowman	Chapter 9-10
8	Oct 13	T	In class exam	
	Oct 15	TH	Policy Discussion 2: Predicting changes in plant species distribution under future climate scenarios	
9	Oct 20	T	Disturbance and Succession	Policy Discussion 2 Paper Due Chapter 12
			ECOSYSTEMS AND LANDSCAPES	
	Oct 22	TH	Ecosystem Processes I	Chapter 14
10	Oct 27	T	Ecosystem Processes II	
	Oct 29	TH	Landscapes	Chapter 16
11	Nov 3	T	Guest Lecture: TBA	

	Nov 5	TH	Policy Discussion 3: Predicting climate change impacts on ecosystem processes	
			GLOBAL PATTERNS AND PROCESSES	
12	Nov 10	T	Climate and physiognomy I	Chapter 17 Policy Discussion 3 Paper Due
	Nov 12	TH	Climate and physiognomy II	
13	Nov 17	T	Biomes I	Chapter 18
	Nov 19	TH	Biomes II	
	Nov 24	T	Thanksgiving Break	
	Nov 26	TH	Thanksgiving Break	
14	Dec 1	T	Policy Discussion 4: Climate change impacts on plants and people	
	Dec 3	TH	Regional and Global Diversity I	Chapter 19 Final Exam Given Out
15	Dec 8	T	Regional and Global Diversity II	Policy Discussion 4 Paper Due Self evaluations due
	Dec 10	TH	Global Change	Chapter 21
	Dec 14	M		Take home final exam due 5 pm