

PLB 452: Plant Population Ecology. Lecture Schedule. Spring 2016 (subject to change)

1.	Jan 19	T	Basic demography. Ch 1 of S & C. and G.
2.	Jan 21	R	Case Study 1: Seedling regeneration niches in New Jersey Oak-Pine forest & IL Shale glades.
3.	Jan 26	T	Variation and Inheritance. Ch 2.
4.	Jan 28	R	Ecological genetics. Ch 3
5.	Feb 2	T	Discussion 1.
6.	Jan 4	R	Case Study 2: Genecology of prairie plants
7.	Feb 9	T	Intraspecific interactions. Ch 4.
8.	Feb 11	R	Discussion 2.
9.	Feb 16	T	Population dynamics I. Ch 5.
10.	Feb 18	R	Population dynamics II. Ch 5.
11.	Feb 23	T	Test 1.
12.	Feb 25	R	Discussion 3.
13.	Mar 1	T	Dynamics of age- and size-structured pops. Ch 6
14.	Mar 3	R	Integral Projection Models.
15.	Mar 8	T	Discussion 4
16.	Mar 10	R	Phylogeny and Ecology: Debate background.
17.	Mar 15	T	Spring Break.
18.	Mar 17	R	Spring Break.
19.	Mar 22	T	Class Debate on Phylogeny and Ecology.
20.	Mar 24	R	Regional dynamics and metapopulations. Ch 7.
21.	Mar 29	T	Discussion 5
22.	Mar 31	R	Case Study 3: Metapopulation dynamics of species from southern Illinois shale barrens
23.	Apr 5	T	Test 2.
24.	Apr 7	R	Competition and coexistence. Ch 8
25.	Apr 12	T	Case Study 4: Mycorrhizal effects on plant demography & competition
26.	Apr 14	R	Plant life histories: breeding systems. Ch 9.
27.	Apr 19	T	Discussion 6
28.	Apr 21	R	Life history evolution: reproduction, growth, senescence and death. Ch 10.
29.	Apr 26	T	Disease ecology
30.	Apr 28	R	Epidemiology
31.	May 3	T	Class Presentations.
32.	May 5	R	Class Presentations.
33.	May 12	R	Final. 12:30 – 02:3PM

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Evaluation

The course grade is assigned based upon achieving the following % of points available:
A = 90+%, B = 80-89%, C = 70-79%, D = 60-69%, F < 60%.

Assignments:

Tests (2)	40%
Final	15%
Lab work	40%
Participation in Discussions/presentations	5 %
	100%

There will be two mandatory class tests and a final. The tests and the final will be over all material covered in class: lectures, case studies, discussions, textbook chapters, and topics covered in lab.

Discussions

The Discussions will be student led critiques of papers from the literature that are pertinent to the topics being covered in class. I will provide a list of suitable papers with one to be chosen by discussion leaders and announced in class the week before (I will make copies available on D2L).

Classroom discussions are regarded as leading to more effective learning than lectures. Discussions focus on two-way, oral communication between the instructor and students, and among students. Hence, I view the class discussions as an integral and important part of this course.

A discussion leader/team will be chosen prior to each class period (there will be a sign up sheet); he/she/they will be expected to explain how the paper addresses a question from Sutherland et al (2013) "*Identification of 100 fundamental ecological questions*" (2013 – available in D2L) and present leading questions to the class about the paper being discussed. Every class member must turn in typed-up, short answers to the following questions about the paper at the start of class (no exceptions, this is part of your grade):

1. What major research question/hypothesis is being addressed?
2. What are the major concepts addressed in the study?
3. How does this study relate to material covered in this course?
4. What taxa were used?
5. What field methods and data analysis procedures were followed?
6. What's good about the study?
7. What's bad about the study?
8. What don't you understand?
9. What have you learnt from the study?
10. What sort of follow up study would be appropriate?

11. Pose a discussion question.

The discussion leader should consider the following:

1. Avoid “yes” or “no” questions as they stifle discussion.
2. Acknowledge all contributions with positive reinforcement.
3. Repeat the question, or rephrase it if there is no response.
4. Probe for explanations: “how did you arrive at that response?”
5. Record good ideas and responses on the board.
6. Summarize the discussion in the last 5 minutes of class (use points from no. 5).

Phylogeny Debate

On Tuesday, Mar 22nd we will have a class debate on phylogeny prompted by the discussion in the literature. The class that day you will be divided into teams to present different aspects of this argument. We will debate the issue “*Phylogenetic comparisons are always necessary in comparative population ecology studies.*” There are two topics to consider: Topic one: phylogeny is/is not always important for ecologists contrasting the views of Ackerly vs. Westoby, and Topic Two: A case study using phylogeny contrasting the views of Silvertown (2004, Silvertown et al 2005) versus Herben et al (2005) and Saunders & Gibson (2005). The teams will present pro and con views in a 5 minute statement, followed by a rebuttal, and open discussion. At the end of the class period a vote will be taken to decide the issue (as far as we are concerned). The lecture on Mar 10th will provide background to the issue, and the papers listed in the readings are those that form the basis of the discussion that occurred in the literature.

Class Presentations

Lecture periods in the last week of the semester are devoted to class presentations. Each student will make a short, 5-6 minute PowerPoint presentation on a recent plant population ecology paper of their choice (from a peer-reviewed journal) that exemplifies a named topic covered in class. A handout should provide the full citation, a relevant figure from the paper, and bullet points on the concept, methods, main results, importance and conclusion(s), and relevance to the course of the study.

SIUC Emergency Procedures. Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program.

Emergency response information is available on posters in buildings on campus, available on BERT's website at www.bert.siu.edu, Department of Safety's website www.dps.siu.edu (disaster drop down) and in Emergency Response Guideline pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency. The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.