

# BIOLOGY 806P

## Plant Ecology

### Spring 2017

Professor **Bryan Drew** (344 Bruner Hall of Science). Molecular systematics; biogeography; speciation; phylogenetics of Lamiaceae; • 308-865-8883 • [drewbt@unk.edu](mailto:drewbt@unk.edu)  
 Contact: By email or phone M-F: 9:00 am to 6:00 pm central standard time (CST)

#### Course Materials:

- Readings: Terrestrial Plant Ecology & Select Primary Literature
- Announcements, quizzes, test, discussion boards, and research project: All information for this class will be available on blackboard (<http://bb.unk.edu>).
- E-mail: All students must use their UNK email account so that I can reach them.

**Schedule:** This class is a graduate level class, therefore I assume that all of you have had a Biology course that covered introductory material at some point in your career. This schedule is subject to change.

	Date	Topic	Assignment/Reading*
Week 1	Jan. 9-13	Introduction/Overview of NE plant communities Plant physiology and function 1	Chapters 1 & 2; Soltis & Soltis 2013
Week 2	Jan. 16-20	Plant physiology and function 2/Vegetation Survey Methods	Chapter 2 Handout
Week 3	Jan. 23-27	History of Plant Ecology	Chapters 3 & 4
Week 4	Jan 30-Feb. 3	Species in an Ecological context Populations	Chapters 5 & 6
Week 5	Feb. 6-10	Plant succession: Primary vs secondary Life history strategies of plants/Species interactions	Chapter 8; Clements 1936; Gleason 1939
Week 6	Feb. 13-17	<b>MIDTERM EXAM 1</b> Climate, Precipitation...	Chapters 14 & 15; Topic for Research Paper Due (via email)
Week 7	Feb. 20-24	...Elevation, and Latitude Fire	Chapters 9 & 16

Week 8	Feb. 27 <sup>th</sup> - March 3	Vegetation Survey Methods Soils	Chapters 9 & 17
Week 9	March 6-10	Vegetation Survey Methods	Chapter 13
Week 10	March 13-17	Nutrient Cycling Wrap up: Soils & Nutrient Cycling	Chapters 13 & 17
Week 11	March 20-24	Spring Break-No Class	
Week 12	March 27-31	Major Vegetation Types of N.A. Major Vegetation Types of N.A. (cont.)	Chapters 11 & 20; Paper Outline Due
Week 13	April 3-7	<b>MIDTERM EXAM 2</b> Plant Associations/Effects of Disturbance	Hobbs & Huenneke 1992; Turner et al. 1998; Tilman 2000
Week 14	April 10-14	Plant Biogeography Plant Ecology: Lessons from the past	Zachos et al. 2001; Parmesan 2006
Week 15	April 17-21	Plant Ecology: Lessons from the past (cont).	
Week 16	April 24-28	CO <sub>2</sub> , climate change, and Plant Ecology Invasive species, humans, and Plant Ecology	Research Paper Due
Week 17	May 1-5	<b>Final Exam</b>	

\* Readings from Barbour et al. (Terrestrial Plant Ecology) unless otherwise noted.  
Note that these readings will generally be more useful if done before lecture/lab of that week.

**Course Description:** Plants are essential for virtually all other life forms on Earth. This course will examine the factors that influence plant ecology, how Earth's plant communities looked in the past, what they look like now, and what they might look like in the future.

**Course Objectives:**

- Understand mechanisms behind plant ecology
- Learn how the Earth's vegetation has changed over time

-- Write a literature review research paper demonstrating an understanding of plant ecology; Also, prepare 15 minute voicethread or Audio Powerpoint summarizing your research paper

**QUIZZES:** Timed quizzes will be given weekly. The purpose of these quizzes is that people keep up on readings.

<b>GRADES:</b>	Midterm Exams	20%
	Final Exam	20%
	Discussion Board	40%
	Research Project	30%

**Research Paper:** As part of this course you will be required to write a scientific paper in a scientific format.

The grading scale used for this class is as follows:

A (91-100%), A- (89-90%), B+ (87-88%), B (82-86%), B- (80-81%), C+ (78-79%), C (73-77%), C- (70-72%), D+ (68-69%), D (63-67%), D- (60-62%), and F (below 60%).

### **STUDENTS WITH DISABILITIES OR THOSE WHO ARE PREGNANT**

Students with disabilities or those who are pregnant are encouraged to contact me for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students with documented disabilities or those who are pregnant. To receive accommodation services for a disability, students must be registered with UNK Disabilities Services Coordinator, David Brandt, in the Academic Success Office, 163 Memorial Student Affairs Building, 308-865-8214 or by email [brandtdl@unk.edu](mailto:brandtdl@unk.edu). For those needing accommodation due to pregnancy, you need to visit with Student Health. The following link provides information for students and faculty regarding pregnancy rights. <http://www.nwlc.org/resource/pregnant-and-parenting-students-rights-faqs-college-and-graduate-students>

Attached is the link to the above statement for your convenience.  
[http://unkcms.unk.edu/offices/disability\\_services/](http://unkcms.unk.edu/offices/disability_services/)

**Plagiarism and cheating:** Anyone found plagiarizing or cheating will receive a 0 for that assignment; subsequent violations will result in referral to the Vice Chancellor for Academic Affairs for dismissal from the university.