Dept. of Biological Sciences, California State University, Los Angeles
Biology 4400 – Plant Systematics – Fall 2019

***Lecture**:* F 10:00 am – 10:50 am
***Lab**:* F 11:15 am – 4:30 pm

All lecture/lab meetings will take place in the Brody Teaching Lab on the grounds of the Huntington Botanical Gardens, 1151 Oxford Road, San Marino, CA 91108.

***Instructor**:* Dr. Kirsten Fisher. *ASCL 393; kfisher2@calstatela.edu*
Office hours: Wed 11:00-12:00 or by appointment

Course materials and announcements will be available on Canvas

Course Overview: Since they first emerged from freshwater onto land about 450 million years ago, plants have diversified into all terrestrial habitats and are arguably the most important group of organisms for supporting life on earth. In the first part of this class, we will learn about land plants' evolutionary journey in their rise to world domination. During the second half of this course, you will learn to see plants in a new way, clueing into key features that provide information on their evolutionary affinities and taxonomic identity.

Learning Outcomes: By the end of this course, you will be able to…

- Sequence and connect the major events in the evolution of land plant reproduction
- Describe some of the challenges presented by life on land and the land plant features that evolved in response to these challenges
- Compare reproduction and water relations in the major groups of land plants, including mosses, liverworts, hornworts, lycophytes, ferns, gymnosperms, and angiosperms
- Identify flowering plant specimens to family based on combinations of diagnostic features

Course Components –

Participation in all the labs is required. Participation entails timely arrival to the Brody Teaching Lab at the Huntington, and full participation in the scheduled activities. We will divide our time between the lecture and the lab, with conceptual material and plant family overviews presented in the lecture, and lab time focused on examining and drawing plant specimens to become familiar with their important features.

Plant ID quizzes, worth 10 points each, will take place at the beginning of five lab sessions. These quizzes will provide multiple low-stakes opportunities for you to practice the skill of plant family identification that you will need to succeed on the final lab practical.

***Lecture midterm**:* This written exam will emphasize the synthesis of conceptual material presented during the first several weeks of lectures - a study guide with potential essay questions will be provided ahead of time to help you prepare for this exam.

***Laboratory notebook**:* I will provide some tips and instructions to guide you in the development of an effective laboratory notebook that will help you be successful this course. I will check over your notebook periodically to check for completeness and to provide feedback, and it will be graded at the end of the term.

Lab activities will help solidify your ability to communicate about features of plants and appreciate plant diversity. These activities will generally be assigned and completed during lab sessions, although some more substantive activities may be completed outside class time for later submission.

A final laboratory practical will cover taxonomic skills gained in both the lecture and lab portions of the course, and will involve interpreting live plant specimens and/or assigning plants to their correct family. The final lab practical will be held during the course's scheduled final exam time. Make-up practicals are difficult to implement with live plant materials, and will only be given under exceptional circumstances, for absences with valid, thoroughly documented excuses.

Point values for the course are as follows:

Lecture Midterm	30
Laboratory Notebook	50
Plant ID Quizzes	50
Lab Activities	50
Participation	60
Final Lab Practical Exam	60
TOTAL	300

Grading will be based on a percentage of total points, as follows:

93-100% = A	80-82% = B-	68-69% = D+
90-92% = A-	78-79% = C+	63-67% = D
88-89% = B+	73-77% = C	60-62% = D-
83-87% = B	70-72% = C-	<60% = F

More Stuff…

Other requirements: You are expected to have a campus account and access to the course materials on Canvas. A link for Canvas can be found on the menu of your myCalStateLA portal.

Academic honesty: You are expected to abide by the University's Academic Honesty Policy, (http://www.calstatela.edu/academic/senate/handbook/ch5a.htm). Students who violate this policy will be subject to disciplinary action, and may receive a failing grade in the course for a single violation.

Reasonable accommodation will be provided to any student who is registered with the Office of Students with Disabilities and requests needed accommodation.

Biology 4400 Schedule – Fall 2019

Note that dates, topics and activities may change. Any changes to the schedule will be announced in class and posted on Canvas; please check Canvas and your campus email regularly (at least twice per week) to remain informed of any announced schedule changes

Week	**Lecture**	**Lab**
1 8/23	Intro to plant diversity; Phylogenetic systematics and Classification	Tour and introduction to the Huntington plant collections
2 8/30	Early land plants – bryophytes	Liverworts and Mosses
3 9/6	Pteridophytes	Lycophytes and eusporangiate ferns; Leptosporangiate ferns
4 9/13	Seeds & seed plants	Conifers
5 9/20	Historical biogeography	**Quiz 1 (bryophytes, pteridophytes)**; Cycads, ginkgos, gnetophytes
6 9/27	Origin of flowering plants	**Quiz 2 (gymnosperms)**; Flower and fruit review session
7 10/4	**Midterm Exam**	ANITA grade & Magnoliids
8 10/11	Petaloid monocots	Liliales, Asparagales, Arecales
9 10/18	Grasses and friends	**Quiz 3;** Poales
10 10/25	Eudicots	Ranunculales, Proteales, Caryophyllales
11 11/1	Rosid I clade	Fabales, Rosales, Fagales,
12 11/8	Rosid II clade	**Quiz 4**; Malvales, Brassicales, Sapindales
13 11/15	Asterid I clade	Ericales, Gentianales, Solanales
14 11/22	Asterid I clade	Lamiales, Boraginales
	Thanksgiving Holiday – No lecture or lab this week.	
15 12/6	Asterid II clade	**Quiz 5;** Apiales, Dipsacales, Asterales
Final Exam TBA		