

IB 157LF Ecosystems of California

Fall Syllabus

Instructor:

Paul Fine, 4014 VLSB, (paulfine@berkeley.edu)

Lecture and Discussion:

W 2-4pm, on Zoom.

Field Trips:

F 9am-5:00pm, locations announced each week.

Book:

Trees and Shrubs of California by Stuart and Sawyer (2001, UC Press)

Description:

The ecosystems of California will be studied from both an ecological and historical biogeographical perspective. Our focus will be on the terrestrial plant communities found in California. We will learn the biogeographical histories and evolutionary history of California's plant lineages, and the dynamic nature of plant communities in California over geological time as well as over the past several thousand years of human history. We will investigate the relative importance of the biotic and abiotic factors that determine which species are found in which environments. We will consider the plant traits that are associated with turnover in species composition along environmental gradients. Along the way, we will learn how to identify 100-150 species of woody plants native to California and common introduced species (trees, shrubs and woody vines). There will be Friday field trips and **possibly** several weekend field trips. Students will learn how to take detailed field notes and will be tested with field practicals (plant identification) and written exams (about the ecology and comparative biogeography that has determined the "assembly" of the flora of California).

Lectures:

Wednesday lectures (Zoom) will last approximately one hour, and will give context for the field trips as well as introductory material related to forest ecology, biogeography and the evolution of the California flora. For the remaining time, we will discuss lecture material, and give information about upcoming field trips and organize travel to the field site among other logistics.

Field Trips:

All field trips are mandatory. We will have 13 field trips (see details below).

Our goal is to see as many species of native trees, shrubs and woody vines as possible in the field and learn how to identify them. We will accomplish this by learning key "sterile characters"; leaves, bark, growth form etc. – instead of focusing on flowers and

fruits which are not always present on the plant. We will learn 10-13 species of plants per day per field trip and each field trip will include a quiz. We will also learn to take detailed notes regarding the natural history of the vegetation at each site which will be turned in for credit. Quizzes and Field exams will consist of plant identification and natural history.

Grading:

Written Homework assignments on readings/lectures: 10%

Take-home written final exam: 20%

Field Quizzes: 35%

Natural History Notes: 10%

Independent Project: 10%

Field Final Exam: 15%

Special Notes:

- 1) Attending class each Wednesday by Zoom is required in order to obtain information about the upcoming field trip and organizing travel to the field site and other logistics.
- 2) This course has a materials fee of \$220 per student that will be added to your CARS bill. This fee has traditionally been used for van rentals, gas, camping, field station charges, etc. If these fees are not used (or not used completely) during field trips — the money will be reimbursed at the end of the semester.
- 3) Due to the global pandemic, we must make some changes to how this class is organized and taught. At all times, we will follow State and campus public health guidelines. While in the field, we will maintain physical distancing of a minimum of 6 feet from each other and we will be wearing masks or other face coverings. You should bring a small bottle of hand sanitizer to clean your hands. I encourage you to get tested for COVID-19 as frequently as possible (For example, I am enrolled in the safe campus study). If you test positive, I ask you to isolate for the recommended time period and we will make accommodations for you.
- 4) The first three field trips will be in Strawberry Canyon and Huckleberry Regional Park and you will be able to reach the trailhead by walking, biking, or taking public transportation, or by driving your own car.
- 5) Although we will be always doing our best to follow public health guidelines, the field trips will often be taking place in public spaces. There may be moments during the class where we come into contact with other people on the trails or parking lots. If this makes you very anxious you should probably not enroll in this class this fall.

6) Public health guidelines are very fluid —and they may change during August–November 2020. They may get tighter with more restrictions or they may relax and have fewer restrictions. We will modify our course and field trips accordingly. If restrictions become more relaxed, and it appears safe to go on a class overnight camping trip then we will do so. Because of this uncertainty, we will plan our field trips 2-3 weeks in advance. I ask students to be understanding and flexible as we work to make Fall 2020 as rewarding, safe, and fun as possible during these unprecedented times.

7) Because of the uncertainty, we may end up spending most or all of our time in the San Francisco Bay Area. We will still learn approximately the same number of plant species as in previous years; however, these may be limited to Bay Area native and introduced woody plants. Some of these plants and field trip locations will be new for me and so I ask for your patience in advance.

8) Weekend camping trips have been a big part of this class in the past. I will do my best to plan camping trips for Fall 2020 as long as they can be done safely and also follow state and campus public health guidelines. It may not be possible so I am not going to make any promises. However, if it is possible then we will do them and I ask you to be able to have a flexible weekend schedule and be able to go on a weekend camping trip with 2-3 weeks notice.