Biology 5455 - Desert Field Ecology - October 5-14, 2019
3 credit hours (lab credits)

Instructor
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TAs
To be announced

Books
Field Guide to the Birds of Western North America, National Geographic Society 2008.
You will also receive a course manual, containing readings and many course details.

Course Fee: $350

Pre-trip Meetings: Organizational meeting in September 2019, about one month prior to the course.

The purpose of this course is to provide you with ten days of complete immersion in desert field ecology. You will be introduced to concepts and methods used by ecologists to understand the diversity of species that surround us. The focal study group is birds, but we will also study other groups. We will do rough estimates of plant diversity and look at the influence of plants on bird diversity. We will explore how this relationship changes with elevation (and latitude). Most of the course will take place at in the Sonoran Desert near Tucson, AZ. We will compare the diversity of bird and plant communities at elevations ranging from the desert floor (3200 feet elevation) up to 7000 feet in the adjacent mountains. Although birds and plants are relatively easy groups to study during a course of this kind, the general concepts and approaches we use can be applied to virtually any group of organisms. No previous background in ornithology or botany is required to take this course. The first couple of days will involve a “crash course” in bird and plant identification.

Students will collect data in the field using a small field notebook (this notebook is for your use and will not be graded). Data recorded in the field will be transcribed each day into what is known as the “Grinnell system”. We will adopt two components of the Grinnell system, which will be kept together in a single 8.5"x11" 3-ring binder:

1) Daily journal: Chronological sequence of field excursions with general information on locality, habitats, weather, lists of species seen, etc. A journal entry will be prepared each afternoon or evening using the notes you made that day in your small field notebook.

2) Species accounts: Students will create accounts for many of the species seen, especially those observed repeatedly, or for some length of time. Species accounts get organized in taxonomic sequence after the daily journal section of the binder.

This binder will be due near the end of the course and will be graded.

The entire class data set from the elevation gradient project will form the basis for oral presentations that students will give near the end of the course in a mock scientific
conference. The class data set will also be used for mock journal articles that students will prepare.

**Grades**

Grades will be based on the following:

1) General effort and enthusiasm
2) Oral presentation with partner
3) Mock journal article written with partner
4) Binder with your journal and species accounts
5) Evaluation of participation by partner

Students who do well will acquire an understanding of:

- Generation and testing of ecological hypotheses
- Collection and analysis of field ecological data
- Influence of abiotic factors and habitat on species diversity
- Identification of birds, plants and other organisms
- How to give an oral presentation at a mock conference
- How to write a journal article

**Equal access provisions:** The course requires long hikes on steep, poorly-maintained trails, often under the hot desert sun. Given this constraint, the University seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in this class, then reasonable prior notice must be given to the instructor and to the Center for Disability Services, 162 Olpin Union. Call 581-5020 (V/TDD) to make arrangements for these accommodations.

**Content accommodation policy:** The instructor does not grant content accommodation requests as the course content fulfills legitimate pedagogical goals.

**Addressing Sexual Misconduct:** Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran’s status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).