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Field Tripping

A class lecture on the beach. A science lab on a ranch. And for more advanced students, coursework at Yosemite or even as far away as Iceland. Sounds like an idyllic, and ideal, way to study — learn about nature while actually in nature.

At UC Santa Barbara, such field trips are a key part of undergraduate education.

And that differentiates the university from many other institutions of higher learning.

“Universities are scaling back on their investments in field learning because it’s expensive and time-consuming and it requires a lot of teaching assistants,” said Douglas McCauley, an assistant professor in the Department of Ecology, Evolution, and Marine Biology (EEMB). He co-teaches the course Ecology and Evolution of Vertebrate Biology with EEMB associate professor Hillary Young.

“What an undergraduate can expect in terms of uniqueness at UCSB is being able to learn outdoors and learn in nature," McCauley continued. “That’s part of the reason Hillary and I came to UCSB — because fieldwork was important in our own training and we feel it is a very valuable tool in education.”

During the weekly field trips coupled with labs, students in their class examine mammals caught with live-release traps and photograph animals with motion-sensing camera traps they set themselves. They search for reptiles and amphibians in coastal protected areas and even visit Santa Cruz Island, where they often see endemic species like the island fox and island scrub jay.

“When we go out into the field, we see animals in their natural habitat, behaving the way they normally do, so students experience an ecology that they don’t get to see in the lab,” explained An Bui, an EEMB graduate student who is a teaching assistant for the course. “It’s a much more accurate representation of how these animals act in the system. Not only do students gain the skills we are trying to teach them, like identifying animals, but also they learn how to problem-solve quickly in the field.”

Allie Kahler, a fourth-year aquatic biology major, concurred. “Going outside and seeing the environment for real enhances learning,” she said. “Field trips also increase interaction with other students because you have to work together to achieve a common goal.”

Carla D’Antonio, chair of the Environmental Studies Program, teaches Ecology and Management of California Wildlands, a course that relies on field trips covering a wide range of the state’s ecosystems, including beach, chaparral, oak woodland and desert. Each week the class travels to a different site, experiencing various habitats firsthand and often meeting land managers or experts, seeing environmental careers in action.

“There is no question that field trips really bring home the lessons that we’re trying to teach students and stimulate them in ways they wouldn’t get otherwise,” D’Antonio said. “Environmental studies wouldn’t be the same without field trips, which are a source of inspiration for so many students.”

Situated between the Pacific Ocean and the Santa Ynez Mountains, the campus is uniquely located for outdoor learning. According to D’Antonio, the ecosystems on and around campus are interesting and diverse and many have undergone restoration, thus providing settings for varied lessons about nature and natural processes.

“The immediate environment of the campus is not only is biodiverse but also makes a fantastic living laboratory of human impacts — both positive and negative — to natural systems,” D’Antonio noted. The weekly field trips in her Restoration Ecology class, for instance, utilize campus projects developed by the Cheadle Center for Biodiversity and Ecological Restoration. These locations are all easy walking or biking distance from the central campus.

“We also have the advantage of field stations at various UC natural reserves,” D’Antonio added. “Half of the field trips in the wildlands class go to a UCSB-managed

location. What’s more, UCSB’s central location simplifies the logistics of travel.”

Many field trips are made possible by donors. The Environmental Studies Program, for example, uses its Freudenberg Fund, an alumni-supported endowment named for the late William Freudenberg, who was a professor for a decade. For its vertebrate biology supplemental field trip to Santa Cruz Island, EEMB took advantage of alumni donor funds. The Department of Earth Science, too, relies on philanthropy — also largely from alumni — to subsidize more than half the cost of its field trips.

Earth science associate professor Phillip Gans teaches an advanced summer field course wherein students conduct original, field-based geologic research in many different locations, including New Mexico, eastern Nevada and Iceland. He also teaches an introductory field methods class that exposes majors to different approaches geologists use in the field, the kinds of observations they make and the tools they employ to collect data. During outings to Ellwood Beach just north of campus, students collect orientation data and describe the folds and faults exposed in the beach cliffs.

“Field trips take learning out of the abstract and clarify the lessons we are trying to teach,” Gans explained. “Equally important is the fact that in field exercises and on field trips, students confront reality as opposed to learning idealized concepts from a textbook. There’s nothing like a dose of reality to make you realize that things are complicated and that your first impressions might be completely wrong.”

When Bui was an undergraduate at UC Santa Barbara, she said, she appreciated the variety of field trips. But now as a teaching assistant, she gleans elements from these excursions that went unnoticed in her own student days. “I actually learn a lot from my students because they come from many different perspectives and research backgrounds,” Bui said, “so they pick up on details I might take for granted.”

About UC Santa Barbara

The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we

draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.