

EVOLUTION AND ECOLOGY ACROSS LATITUDES

Fall – Winter – Spring, 2015 – 2016. Sophomore – senior.
Study abroad in Ecuador in Winter quarter, with option to
stay in Latin America in Spring to conduct independent research.



Applications are due Friday, May 15th.
Decisions will be made before Fall registration begins the following Monday.



Please go to the program website

<https://sites.evergreen.edu/eeal/>

for answers to FAQs and to download an application.

Your faculty are Heather Heying and Bret Weinstein. Contact info at the website.



This program is an all-year exploration of patterns across space and time, with strong theoretical, empirical, and field components. From mycorrhizal fungi that live in the roots of trees, to bats collecting fruit high in the moonlit canopy, organisms are best understood embedded in the context of the forces that gave rise to them.

Using the global pattern of the latitudinal diversity gradient as our jumping off point—there are more species the closer you get to the equator—we will explore many systems with an evolutionary lens. Why are there more species closer to the equator? How are latitude and altitude analogous to one other? When do we predict to see generalists, and when specialists? How can other biological divisions—such as nocturnality vs. diurnality, or migratory vs. sedentary—be understood using the evolutionary toolkit that we develop? We will study evolutionary ecology and animal behavior, and incorporate the tools and findings of statistics, phylogenetic systematics, and tropical biology as well.

Unsure whether or not this is the program for you? One approach to figuring that out, beyond talking to us, might be to take a look at Pianka's *Evolutionary Ecology*, an excellent text that covers some of the theoretical ground, and provides myriad empirical examples, that we will be exploring in the program.

In Fall quarter, there will be an extended overnight field trip in the Pacific Northwest. Beginning early in Winter quarter, we will travel together for 9 – 10 weeks in Ecuador (we are actively developing the itinerary now—no dates or places are yet finalized). We will spend significant time in the colonial city of Cuenca, as well as travel to several tropical ecosystems including, hopefully, cloud forest, páramo, dry forest, the Amazon (lowland rainforest), and the Galápagos.

We will offer up to 32 upper-division science credits for students who are in the program the entire year. Some of the lower-division credits will be awarded in statistics.

If you are interested in Fall quarter, but cannot or do not want to study abroad, please do apply. We will accept 50 students in the Fall, but drop to 30 for Winter quarter in Ecuador.

What will our time together in Ecuador be like? In order to travel successfully, learn maximally, and generate knowledge and stories that last a lifetime, you should:

- Be flexible—in your expectations, in the timing of your meals, in accommodations. Everyone will be physically uncomfortable some of the time. Some of you will be physically uncomfortable the entire time we are in the Amazon, for instance—it is a fundamentally hot, wet place, and many people don't tolerate it well. Unless you plan quite well, there will be days when you really, really wish that you had access to a dry pair of socks (pants, shirt...), but wishing does not make it so.
- Embrace serendipity—some things that are planned may not happen, but other things that weren't on the agenda may be surprising and amazing. Taking opportunities that were unforeseen is one of the best routes to experiencing new things, seeing animals, and becoming a broader and deeper thinker.
- Be courageous, but aware of your own limitations, and responsible for your own risks. It is a fine line to walk (run, climb...). Assessing risk is a different calculation when you're far (sometimes very far) from medical help. Lawyers have not gone through the environments we'll be traveling in and made them safe—in that truth lies both much of the fun, and much of the danger, of the journey.
- Not be on auto-pilot. Things in your life for which there have never been any variance may suddenly be very different (e.g. food availability, cultural norms). We will be guests in another country, so as much as possible, we need to exist within their expectations, not ours.
- Be physically fit, enough to slog through mud in the Amazon, ride a mule up a mountain at the coast, hike around a volcano at 9,000 feet. Most days for the many weeks that we are together will be active ones.
- Know that you will be away from electronic communication for some lengths of time, and plan to a) not dissolve as a result, and b) embrace the here and now. Tropical field work allows for a kind of Buddhist "be here now," in which you interact entirely, or nearly entirely, with those whom you are physically present with in the moment—this is incredibly freeing in many ways, but can be challenging if you are accustomed, for instance, to frequent social media updates.
- Be the kind of person who tends to want to solve their own problems. We will be traveling as a group, and will have responsibility for each other. We will all certainly solve some problems of others at various points on the trip. That said, if your typical reaction, when something needs fixing, is to wonder *who to ask*, that is going to be a problem. Your first instinct should be: *how do I solve this myself?* Self-sufficiency, or at the very least a tendency towards self-sufficiency, is necessary when traveling and researching away from the comforts, economic structures, and laws of the United States.
- Be responsible, and take responsibility. Follow through on commitments and expectations, and act in such a way that your faculty and fellow students have less to keep track of as a result of your behaviors, rather than more.
- Be fundamentally interested in the good of the learning community—of the physical safety, psychological well-being, and intellectual integrity of everyone, while allowing for individual personality differences to exist and flourish. We will be a team—a large team, but a team nonetheless. Individual success depends on collective good will, action, and intention by all.