

UNIVERSITY OF TORONTO
Ontario Universities Program in Field Biology

Course Title:	Tropical Field Biology
Instructor(s):	Prof. John Stinchcombe, john.stinchcombe@utoronto.ca Prof. Megan Frederickson, m.frederickson@utoronto.ca
Dates:	July 31 – August 14, 2024
Location:	Peru Wayqecha Cloud Forest Research Center , near Cuzco Los Amigos Research Center , near Puerto Maldonado
Cost:	Estimated \$2,500 (\$350 deposit to home university; \$2,150 balance) This includes food, accommodation, field station fees, and in-country transportation (flights within Peru, and ground/boat transportation to and from field sites). Not included: International airfare to Lima and return to Toronto, travel insurance (mandatory), travel visa (if required), beverages, laundry, etc. If you wish to be on the same flight(s) as the instructors, information will be provided after you have made your course deposit. Students must purchase their own airfare tickets and must either travel with the professors or meet the class in Lima by the time the professors arrive in Lima. IMPORTANT: <ul style="list-style-type: none"> ● A \$350 deposit is due to your home university with your OUPFB application. ● The remaining deposit must be received by the host university in two installments: (1) \$650 deposit is due May 20, 2024; (2) the remaining \$1500 is due June 21, 2024. ● In June 2024, students must provide the EEB Undergraduate Office with scans of two documents: (1) passport valid until at least February 2025; *(2) Certificate of proof of travel insurance (that covers the dates of the field course)
Prerequisites:	First year biology course Recommended: Upper year courses in ecology, evolution, behaviour, or organismal biology.
Enrolment:	20 (18)
Description:	This field course will examine the ecology and evolutionary history of the Andes-to-Amazon region through a combination of lectures, discussions, and field research projects. There will be mandatory pre-trip lectures and meetings (dates and times TBA) during which we will discuss in detail the logistics of the trip and introduce the ecosystems of the Neotropics. During our two weeks in Peru, we will visit two main field sites, one in cloud forest and one in lowland rain forest. Visiting these two sites will allow us to explore how plant and animal communities change as we travel from the Andes Mountains to the jungles of the Amazon Basin. We will spend several days at the Wayqecha Research Center, which is located almost 3,000m above sea level on the eastern slope of the Andes. We will then travel to the Los Amigos Research Center, before travelling back to Lima via the jungle city of Puerto Maldonado. The Los Amigos Research Center is situated in the Amazon Basin at only 250m above sea level and surrounded by lowland tropical rain forest. During the first week of the field course, we will conduct several group exercises designed to familiarize you with common techniques and approaches in field ecology and evolution. We will explore the forests around Wayqecha and Los Amigos during these exercises, with the goal of introducing the tremendously diverse natural history of the Andean and Amazonian regions. We will also have a series of lectures to provide background and context to what you see in the field. On the second week of the course, students will perform an independent research project, designed to test an ecological or evolutionary hypothesis. Students will gain exposure to all components of the scientific process including natural history observations, hypothesis generation, experimental design and data collection, data analysis, and an oral and written presentation of the results.
Evaluation:	You're the expert (10%) Participation in discussions (10%) Field exercises (25%) Independent project oral presentation (20%) Independent project written report (35%)

An Average Day – What to Expect

a) Daily timeline	Expect to spend long days on foot exploring tropical forests, performing group and individual field exercises, and seeing the tropics for yourself. Evenings are spent processing data, discussing papers, and working on group exercises, in discussions with your peers, and relaxing. Expect a balance between spending enough time in the field to really experience tropical forests, academic work, and time to recharge in the evenings. All academic and daily activities subject to change due to local weather conditions, impromptu opportunities, and access to local experts.
b) Work habitat & Physical exertion	We will spend a great deal of time in the field in all weather conditions. Students should be comfortable spending long hours outdoors, and physically and mentally prepared to spend two weeks in remote locations. Students should be prepared for strenuous physical activity, long hours, and rustic accommodations. Risks are like those for any eco-tourist visiting Peru (diarrhea, parasitic infections, snake and insect bites and stings, and crime). Students should be aware that while at Wayqecha and Los Amigos there is limited access to medical assistance; therefore, travel insurance is mandatory.
c) Common activities	Expect to walk/hike at different times of day in various conditions and temperatures. Good hiking shoes are strongly recommended. In-course travel will include ground bus, boat, and flights within the country.
d) Weather, dehydration, & biting insects	Weather conditions likely to be encountered are typically tropical, and these can involve the following: 21 to 40 degrees, intense sun, high UV, high humidity, heavy rain, high winds, and lightning storms. Please expect to encounter high altitudes. Mosquitoes and biting flies will be encountered.
e) Toxic/poisonous, wildlife/ plants	Along with the usual mosquitos, stinging insects, Peru is host to a wide range of wildlife that require your attention and respect. Malaria, while uncommon, is possible. Only a medical doctor can provide a risk assessment of pathogens for those travelling abroad. We encourage all students to visit a medical travel clinic for a full assessment and the latest pathogenic risks for any given country.
f) Sleeping, washroom & laundry facilities	Accommodation is shared in rustic lodgings and cabins of the same gender. Showers will have warm-hot water, but supply may be limited, and short showers may be necessary. Laundry is available but limited. Clothing suggestions will provide at the pre-meeting.
g) Meal plans & food allergies	Meals include local, fresh Peruvian cooking. Cooks and instructors will work to accommodate student-specific meal plans and allergies. Given the location of stations, it may be difficult to accommodate all dietary preferences and the variety of food may be limited.
h) Non-academic responsibilities	Respectful interactions with local community members and guides.
i) Degree of isolation	We may be isolated from services you might take for granted as an urban dweller. Please be prepared to have limited internet, limited access for personal hygiene needs, missing/forgotten equipment. Please bring your medical supplies. We do provide back-up in an emergency.
j) Alcohol & drugs	Students must follow all local drug and alcohol laws and remain responsible throughout the duration of the trip. No recreational drug use will be tolerated.
k) Vaccinations/ Insurances	The Government of Canada travel advice should be consulted and is available at: https://travel.gc.ca/destinations/peru Students must have travel insurance and consult with a medical doctor as to their needed vaccinations. Students must arrange for travel visa if required.
l) Social Situations	We travel as a closely-knit, mutually supportive group. We attempt to ensure the best possible experience for every single person on the course. Students need to have an open mind, and be respectful of others, as we are living in close quarters. Students are expected to act professionally, be respectful of the local culture, and to view this opportunity as a working academic endeavour.
m) Final comments	Our objective of this course is to offer the opportunity to explore the epic biodiversity of the tropics. Experiencing this firsthand has been a transformative experience for past students.