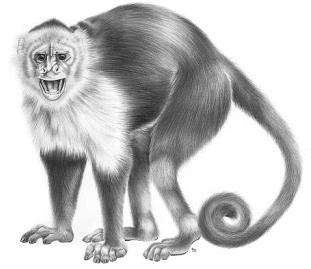




Biology Department

**BIO3040 – Field Biology:
Neotropical Ecology**

2 Units



Spring 2023 Quad II

*Meeting location for class & travel
preparation: **LATTER 02***

*Final Exam: **Final project due May 25, 2023***

Instructors of record:

Dr. Mike Mooring (mmooring@pointloma.edu; 619-849-2719)

Dr. Walter Cho (wcho@pointloma.edu; 619-849-2398)

Guest instructor:

Dr. Breeann Kirby (bkirby@pointloma.edu; 619-849-3004)

Meeting time/place:

Class 3/1-4/28: Wednesday 5:00-6:00 pm – LATTER 02

Travel Preparation: Wednesday 6:00-7:00 pm after class – LATTER 02

Field trip to Costa Rica May 8-18, final project due May 25

Office location and hours:

Mooring: Rohr Science 128; by appointment

Cho: Rohr Science 134; MWF, 8:30-9:30 am; Tues., 8:30-11:30 am; and by appointment

Kirby: Bond Academic Ctr 124; by appointment

But now ask the beasts, and they will teach you; and the birds of the air, and they will tell you; or speak to the earth, and it will teach you... that the hand of the Lord has done this. (Job 12:7-9)

The wild animals honor me, the jackals and the owls, because I provide water in the wilderness and streams in the wasteland, to give drink to my people, my Chosen. (Isaiah 43:20)

Required texts:

Tropical Nature: Life and Death in the Rain Forests of Central and South America, Forsyth, A. and K. Miyata. 1995, Charles Scribner's. (ISBN-10: 0684187108)

Monkeys are Made of Chocolate: Exotic and Unseen Costa Rica, Ewing, J. 2005, Pixyjack. (ISBN-10: 0965809811)

Catalog course description

A field-oriented course that introduces students to the ecology and conservation biology of the New World Tropics. The course begins during Quad II of the spring semester, and continues with a 10-day field immersion trip to Costa Rica in early May. We visit some of the most intense biodiversity hotspots in Central America. Through readings, lectures, student presentations, and field trips, we explore the plants and animals of the tropics and investigate the ecological and cultural complexities of conserving them. Relevant issues of culture, language, public policy, and stewardship are also covered. Students complete a project paper or presentation based on their independent research.

Prerequisite: BIO 2011 or instructors' approval.

Course summary

The course meets weekly during the spring quad II followed by a mandatory trip to the montane cloud forest and lowland rainforest of Costa Rica. Learning will take place on campus as we read and discuss assigned readings and student presentations. Students will write a final project essay on a topic of their choice due on or before May 25. In Costa Rica, learning will continue both in the field and in classrooms. While the academic focus is on Neotropical ecology, issues of culture, language, development, and environmental stewardship will also be covered. Students are required to keep a detailed journal throughout travel in Costa Rica. Final grades will be assigned according to the following criteria: (1) attendance and participation, (2) reading questions from the texts, (3) quality and originality of final essay, (4) group presentations, (5) attitude and teamwork in Costa Rica, and (6) quality and completeness of journal.

Course learning outcomes

By the end of this course, students will be able to:

- describe the tropical biome and some of its ecosystems
- explain many of the biotic and abiotic interactions of tropical ecosystems
- discuss what faithful stewardship of tropical ecosystems entails
- demonstrate an expertise in a particular topic related to Neotropical ecosystems

Evaluation and grading – The total course is worth 535 points. Each requirement is described in detail below.

Reading questions (90 points). Guided questions on the material covered in the *Tropical Nature* text. Due on Canvas before the class meeting on the due dates. Each student must do their own work. You will also have a weekly chapter to read from *Monkeys Are Made of Chocolate* (each chapter is 5-6 pages and fun to read) followed by a Canvas quiz.

Team presentations (100 points). In groups of 2-3, students will give four (4) 10-minute presentations on topics relating to (1) biodiversity and (2) conservation and people. For these presentation, you will pose an intriguing question (introduced in the first slide) and respond to that question in the subsequent presentation. You will be assigned a different group to work with each time so that you get to know all the students. For **biodiversity**, appropriate topics would relate to a species or taxonomic group (mammal, bird, reptile amphibian, fish, invertebrate, plant). For **conservation and people**, the topic will explore interactions between people and their environment in Costa Rica as it relates to conservation (e.g., ecotourism, sustainable farming, protected areas, or biological corridors). An example of an intriguing question might be “Why are some jaguars melanistic?”, or “Do local people benefit from biological corridors?” All partners are expected to fully contribute to the presentation and Q&A.

Final project essay (100 points). Students will individually prepare a written essay as their final project (this will be considered the final examination). The writing piece could be modelled after a scientific review article, a personal perspective nonfiction piece, or even a creative writing project such as historical fiction or a story. We encourage you to think about a suitable topic and literary approach to your essay during the second quad and before the trip, and fine-tune your idea during our time in Costa Rica. Please talk to faculty members about your idea to get their approval before you start writing. The final report should be a minimum of 1900 words (about 5 pages), spacing a maximum of 1.5, with standard font and margins. A detailed guide will be provided during the quad II meetings.

Travel journal (100 points). Students are required to keep a travel journal and an entry is required for each day of the trip based on our travel and learning schedule. Entries will include reflections on (1) personal experience, (2) cultural observations, (3) biological observations, and (4) spiritual reflections – at least three reflections for each topic. Each day’s entry will be at least 1 page in length and written neatly. Include a Table of Contents on the first page, with biological observations summarized at the end of the journal into a species list of the mammals, insects, amphibians, reptiles, birds, marine organisms, and plants encountered during the trip. The journal should also include ecosystem-level observations of various biotic and abiotic interactions. The travel journal will be collected at the end of the trip. More detailed guidance on the travel journal will be provided.

Attitude and teamwork (50 points). The close quarters and long hours of a study abroad experience demand that all students work together to get along and pull their share of the load. A gracious and hard-working attitude will be required for this course to be a success. The instructors reserve the right to dock students up to 50 points from their final grade for a poor attitude or work ethic. Commit to a good attitude and work ethic and these will be easy points to earn.

Trip Preparation Meetings

To maximize the benefits of the field course in Costa Rica, we will meet 4 times during the quad for an extra hour between 6:00-7:00 pm in Latter 02. The plan will be to have class from 5-6 pm, followed by a catered dinner and discussion of travel topics to prepare us for the Costa Rica trip. Topics that we will cover include (1) gear and boots needed for Costa Rica, (2) health, fitness, and foot care, (3) travel and logistics, (4) culture and Spanish, and (5) fun games. Extended meeting times are planned for the following dates: **March 1, March 15, March 29, April 12.**

Costa Rica trip – Attendance, participation, and devotional

Because we have so little time to prepare for the trip, attendance at and participation in all weekly meetings on campus is required. Students will be penalized 10 points for each unexcused absence, along with forfeiting any presentation points for that week. Participation in the trip to Costa Rica and all activities in-country is also required. While in Costa Rica, each student will be invited to prepare and lead a devotional/reflection time of 20-30 min for the group. If you wish, one of the instructors will help you to prepare or lead the devotional. Let us know if you have any concerns about this.

What your grade will be based on:

*Assignment points are approximate and may be adjusted at instructor’s discretion

Attendance Participation	50 pts
Reading questions (<i>Tropical Nature</i>) @ 30 pts	90 pts
Quiz questions (<i>Monkeys</i>) @ 5 pts	45 pts
Team presentations @ 25 pts	100 pts
Final project essay	100 pts
Travel journal	100 pts
<u>Attitude and teamwork</u>	50 pts
Total	535 pts

<u>Letter Grades:</u>			
A	90%	C	70%
A-	88%	C-	68%
B+	86%	D+	66%
B	80%	D	60%
B-	78%	D-	58%
C+	76%	F	< 58%

Costa Rica Simple Schedule

- May 8: Depart PLNU at 6:30 pm for bus transportation to LAX
- May 9-12: QERC, San Gerardo de Dota
- May 12-14: Hacienda Barú, Dominical
- May 14-17: Proyecto Campanario, Osa Península
- May 17: Hotel Aranjuez, San Jose
- May 18: Return flight to LAX with bus transport back to San Diego

On-campus schedule for Class and Trip Preparation Dinners – Wednesdays in Latter 02

- Class: All Wednesdays – 5:00-6:00 pm
- Trip Preparations Dinners: selected Wednesdays – 6:00-7:00 pm

* Note that additional readings may be required to prepare for class on these days.

Date	Time	Activity	Readings due
March 1	5:00-6:00 6:00-7:00	*Dr. M – Melanistic jaguar and onchilla ♥ Trip Preparation and dinner	<i>Monkeys</i> Ch 9
March 8	SPRING BREAK		<i>Monkeys</i> Ch 5
March 15	5:00-6:00 6:00-7:00	*Dr. M. – Wildlife Crossings at Hacienda Baru ♥ Trip Preparation and dinner	<i>Tropical Nature</i> Ch 1-5 <i>Monkeys</i> Ch 11
March 22	5:00-6:00	Team presentations: Biodiversity	<i>Monkeys</i> Ch 24
March 29	5:00-6:00 6:00-7:00	*Dr. Kirby – Writing an inspired field journal ♥ Trip Preparation and dinner	<i>Tropical Nature</i> Ch 6-11 <i>Monkeys</i> Ch 26
April 5	5:00-6:00	*Dr. Cho – Neotropical marine biology	<i>Monkeys</i> Ch 31
April 12	4:00-6:00 6:00-7:00	Team presentations: Biodiversity ♥ Trip Preparation and dinner	<i>Monkeys</i> Ch 29
● April 19	5:00-6:00	Team presentations: Conservation & people	<i>Tropical Nature</i> Ch 12-17 <i>Monkeys</i> Ch 25
April 26	5:00-6:00	Team presentations: Conservation & people	<i>Monkeys</i> Ch 20
May 8-18	Costa Rica Field Experience		
May 18	Travel journals due at the end of the trip		
May 25	Final project due		
May 31	Final grades posted		



PLNU INSTITUTIONAL POLICIES



PLNU Mission: To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service becomes an expression of faith. Being of Wesleyan heritage, we aspire to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

Spiritual care: PLNU strives to be a place where students grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith. If you have questions, a desire to meet with the chaplain, or if you have prayer requests, you can contact the Office of Student Life and Formation.

State Authorization: State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on State Authorization to view which states allow online (distance education) outside of California.

PLNU Attendance and Participation Policy: Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report which may result in de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation.

PLNU Academic Honesty Policy: Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See [Academic Policies](#) for definitions of kinds of academic dishonesty and further policy information.

PLNU Academic Accommodations Policy: PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities. Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will issue an academic accommodation plan ("AP") to all faculty who teach courses in which the student is enrolled each semester. PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course and/or if they do not wish to utilize some or all of the elements of their AP in that course. Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC.

PLNU Copyright Policy: PLNU, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

Sexual Misconduct and Discrimination: Point Loma Nazarene University faculty are committed to helping create a safe learning environment for all students. If you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that help and support are available through the Title IX Office at pointloma.edu/Title-IX. Please be aware that under Title IX of the Education Amendments of 1972, it is required to disclose information about such misconduct to the Title IX Office. If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services at counselingservices@pointloma.edu or find a list of campus pastors at pointloma.edu/title-ix