

Course Information and Syllabus
BIOL365 - Advanced Natural History
of the Galápagos and Ecuador Prep
Fall 2019



Course description

This is a preparation course for a January travel class to explore and study the Galápagos Islands and mainland Ecuador - some of the most biologically diverse regions in the world. Students will study the biodiversity, adaptations, and natural history of species in Galápagos and the Andean cloud forest. During the fall course, students will read both original research articles and popular science literature that will advance their understanding of the biological, ecological, and environmental issues specific to the regions that will be visited in January, and will refine observational skills and develop skills in field drawing.

Prerequisite: BIOL 312 or 315 and BIOL 314. Instructor's consent.

General Course Information

Fall 2019, preparatory course: Thursdays 4:30pm - 6:05pm, Price 204

Winter 2020, travel course: Approximately January 10-23, 2020. Specific dates TBD.

Instructors: Lauren Chan
Office Location: 310 Strain
Email Address: lchan@pacificu.edu
Office Phone: 503-352-1469
Office Hours: Mondays 1:00-2:00 PM
 Thursday 2:00-3:00 PM
 and by appointment

Chris Templeton
203B Strain
templeton@pacificu.edu
503-352-3149
Monday 10:00-11:00 AM
Thursdays 1:00-2:00 PM
and by appointment

Student Learning Outcomes

After successfully completing this course, students will be able to:

- Understand the historical, environmental, and scientific background of the Galápagos Islands and selected regions of Ecuador.
- Relate Darwin's Theory of Natural Selection to species of plants and animals found in Galápagos and Ecuador.
- Know and understand the Galápagos National Park rules and their importance for conservation in Ecuador.
- Communicate observations in both illustration and writing through the use of detailed field notebooks.
- Read and discuss concepts from primary literature (original research articles) in biology, and communicate these concepts orally to peer non-majors and biology majors.

This course also provides the following learning outcomes for the Biology major:

- Demonstrate deep understanding of five core concepts in biology: evolution; pathways and transformations of energy and matter; information flow, exchange, and storage; structure and function; and biological systems.
- Effectively read, write, speak and understand scientific material.
- Collaborate and communicate within biology and across disciplines.
- Apply science to issues facing our society.

Website & Course Email

All relevant course information will be posted on Moodle. If you need to email all members of the course, you can do so here at galapagos2019@courses.pacificu.edu

Work Load

The standard expectation for a two-credit course is that you should put in 2-3 hours outside of class per week for every credit - this means that you should expect to spend 4-6 hours outside of class per week doing the readings, preparing assignments, and keeping up your field notebook.

Required Materials

The following four books are required. They can be found for purchase from retailers such as Powell's Books or Amazon.com. Assigned readings for each lecture are listed on the schedule at the end of the syllabus, as well as on the course Moodle site.

- *Charles Darwin's On the Origin of Species: A Graphic Adaptation* by Michael Keller and Nicolle Rager Fuller. Rodale Books, ISBN-13: 978-1605299488
- *The Beak of the Finch* by Jonathan Weiner. Vintage Books, New York, ISBN 0-679-7334-X
- *Galápagos at the Crossroads* by Carol Ann Bassett, 2004, 978-1-4262-0402-9
- *Galápagos: A Natural History Guide* by Pierre Constant. W.W. Norton & Company, 7th Edition, ISBN 978-962-217-766-6

You will also need a field notebook for making sketches and observations. We'll discuss different options in class.

Course Fees

Course fees comprehensively cover all airfare, activities, and accommodations over the duration of the travel course. The fee is an estimate based on rates obtained - price could change. Students must pay all fees in full prior to departure. After payment #2 due date, student is responsible for full trip cost even if student cancels trip or withdraws from the class.

Payment #1 due Monday, Sept. 2nd \$100.00

Payment #2 due Monday, Sept. 9th \$2,500.00

Payment #3 due Thursday, Oct. 3rd – Balance: ~\$2,400.00

Estimated Total Cost: \$5,000

Grades

Your grade will be based on reading assignments, participation, your field notebook, two presentations, and midterm and a final exam.

- 10% Midterm Exam
- 40% Presentations (two presentations)
- 20% Field Notebook
- 10% Participation (attendance, contribution to discussions, and attitude)
- 20% Final exam

Exams

There will be two exams in this course, each of which covers material from the lectures, readings, and discussions. Exams will be a mixture of multiple choice, short answer, and long answer.

Students must pass all exams at 70% or greater in order to participate in the travel portion of the course.

Discussion Preparation

You will prepare three discussion questions and bring them to class each week that there is a discussion. You will be graded on the completion and thoughtfulness of these questions.

Field Notebook

You will maintain a field notebook throughout the duration of both the preparatory course and the travel course, in which you will practice making detailing and describing your observations through writing and sketching. You will be graded on effort and completeness of the assignments.

Presentation

You and a partner will give a mini-lecture to the class on a scientific concept related to the tropics, mainland Ecuador, and/or Galápagos. You will also each present individually on a species of your choice, focusing primarily on species endemic to the Galápagos. Your presentations will incorporate both general information and data from primary literature (journal articles).

Participation

This class, together with the winter travel, is an experiential learning opportunity - it is not a tour and it is not a vacation. You will be expected to be actively engaged in learning during both the class and the trip. Participation includes contributing in all discussions, being prepared for class meetings, helping organize information, and aiding in preparations for the trip.

Grades will be posted for your information on Moodle - the instructors keep a separate gradebook. The final date for adjustments to any grade is one week after the assignment has been returned to the student.

Other Expectations

We hope that you enjoy this course, and we want to provide you with an opportunity in which you are able to learn to the best of your ability. A couple of guidelines to ensure that we all have a safe, productive, and enjoyable trip include:

1. *Maintaining a positive attitude.* You will be in tight quarters in an unfamiliar setting with people you do not know very well. Things definitely won't be the way they are at home and things probably won't always go as planned. Try to keep in mind that this is part of the excitement and joy of an experiential learning course. We ask that you be considerate, flexible, and easy-going.

2. Remember that you are a guest in a country with a very different culture. Please be open minded and respectful of the people, animals, and places we visit. We are going to learn and experience as much as possible, and the only way to do this is to keep an open mind and try to appreciate and experience as much as possible. Be mindful that you are a representative of Pacific University.

3. Think about the safety of yourself and your colleagues first. You will be sent immediately home at your own expense if you disrupt the trip in any way - this includes putting yourself or anyone else on the trip in jeopardy, negatively impacting the learning experience of others, if found in possession of any illegal drugs or alcohol, or in any way jeopardizing the success of the trip.

Academic Misconduct Policy

Pacific University has no tolerance for academic misconduct/cheating. It is university policy that all acts of misconduct and dishonesty be reported to the Dean. Sanctions that may be imposed for such misconduct range from an "F" for the assignment, an "F" for the course, and suspension or dismissal from the university. Forms of academic misconduct include but are not limited to plagiarism, fabrication, cheating, tampering with grades, forging signatures, and using electronic information resources in violation of acceptable use policies.

Support Services for Students with Learning Differences

If you have documented challenges that will impede your learning in any way, please contact our Office of Accessibility and Accommodation located in Clark Hall (ext.2717; oaa@connect.pacificu.edu). OAA staff will meet with students, review the documentation of their disabilities, and discuss the services that Pacific offers and any appropriate ADA accommodations for specific courses.

The Center for Learning and Student Success (CLASS)

The Center for Learning and Student Success (CLASS) is located on the second floor of the Tran Library overlooking the lobby. CLASS is an open study space that offers individual tutoring, group tutoring, and guided study sessions for students. CLASS has peer tutors available from 10 a.m. through 10 p.m. Sunday through Thursday. Appointments are strongly encouraged, but not required. Check the schedule for up-to-date availability of tutors, drop-in hours, or to make an appointment: pacificu.edu/class

Unauthorized Recordings

Students are prohibited from making audio and/or visual recordings of lectures or presentations without prior consent of the instructor or presenter.

Tentative Course Schedule

Date	Topic	Assignment	Notes
Aug 29	• Course Overview		1st payment due Sep 2
Sep 5	• Discussion of reading	• New Neotropical Companion, Ch 13 (pdf on Moodle) • Bring passport to class	2nd payment due Sep. 9
Sep 12	• Fieldtrip	Bring field notebook to class	
Sep 19	• Discussion of readings • Scientific Drawing	Galápagos: Natural History Ch. 1-6	
Sep 26	• Discussion of readings • Student Mini-lectures	On the Origin of Species Ch. 1-7	
Oct 3	• Discussion of readings • Student Mini-lectures	On the Origin of Species Ch. 8-Afterword	3rd payment due Oct 3
Oct 10	• Midterm Exam • Biodiversity		
Oct 17	• Discussion of readings • Student Mini-lectures	Beak of the Finch Ch. 1-9	
Oct 24	• Discussion of readings • Student Mini-lectures	Beak of the Finch Ch. 10-Epilogue	
Oct 31	• Discussion of readings • Culture and language	Galápagos at the Crossroads Ch. 1-7	
Nov 7	• Discussion of readings • Safety, etiquette, and logistics	Galápagos at the Crossroads Ch. 8-Epilogue	
Nov 14	Species reports	Readings TBA	
Nov 23	Species reports	Readings TBA	
Nov 28	Thanksgiving Break No Class		
Dec. 9	Final Exam – 12:00 – 2:30 PM		

Tentative Itinerary for Winter course

DAY 1, Jan 10th

Transfer airport – hotel in Tababela (Quito)
Overnight in Tababela.

DAY 2, Jan 11th

Tababela-Maquipucuna
AM: Drive to western cloud forest, on the way visit to the equator. Box lunch.
PM: check in and brief about reserve. Optional walk. *Meals: B,L,D*

Day 3, Jan 12th

Maquipucuna – Santa Lucía Reserve
AM: Hike through the cloud forest to Santa Lucía Reserve.
PM: walk surrounding trails for birding and learning about forest.
Accommodation Mountain lodge. Meals: B,L,D

Day 4, Jan 13th

Santa Lucía Reserve – Hacienda Verde - Quito
AM: Early birding walk through cloud forest. Walk back to Maquipucuna. Drive back to Quito. On the way visit Hacienda Verde.
PM: Visit to Hacienda Verde located at the heart of the inter-andean dry valley, a great contrast with humid cloud forest.
Meals: B,L,D

Day 5, Jan 14th

Papallacta Highlands
Quito – Guango - Quito
AM: Drive to Papallacta highlands. Birdwatching at bird reserve. PM: Walk in the area. Hot springs. Ride back to Hotel.
Overnight in Tababela. Meals: B,L,D

DAY 6, Jan 15th

Galápagos
Quito-GPS, ISABELA ISLAND
AM: Transfer to airport and Flight to Galapagos, Baltra. Transfer to Puerto Ayora in Santa Cruz Island
PM: Speed boat to Isabela Island, Check in hotel and free time before dinner.
Accommodation hotel. Meals B,L,D

DAY 7, Jan 16th

Visit WETLANDS AND TINTORERAS
AM:Tour around tintoreras rocky islets, snorkel. PM: Visit Wetlands of Isabela.
Accommodation hotel. Meals B,L,D

DAY 8, Jan 17th

ISABELA- CAMPO DURO
AM: Drive to Campo Duro camp, activities at the tortoise reserve. PM: Visit and support a local coffee producer and farm
Accommodation Camping. Meals: B,L,D

DAY 9, Jan 18th

Speed boat from ISABELA to FLOREANA, SNORKEL LOBERIA

AM: Transfer to the port and boat ride to Floreana

PM: Check in at Hotel, Lunch and time to explore bay and beach (snorkel)

D: Dinner

Accommodation Lodge. Meals: B,L,D

DAY 10, Jan 19th

Speed boat FLOREANA- SAN CRISTÓBAL

AM: Early snorkel before breakfast, boat ride from Floreana to San Cristóbal, Check in, lunch

PM: Interpretation center or Explore, snorkel Lobería bay

Accommodation lodge. Meals B,L,D

Day 11, Jan 20th

Day tour to KICKER ROCK

AM-PM: Full day visit to Kicker Rock (León dormido), (Cerro Brujo depending on national park regulation) snorkel and beach

Accommodation lodge. Meals: B,L,D

Day 12, Jan 21th

Visit to JUNCO Lagoon & Tortoise breeding center,

AM: Drive to highlands, walk through endemic miconia forest up to El junco lagoon, Visit San Cristóbal Galapagos Tortoise breeding center. PM: Puerto Chino Beach

Accommodation lodge. Meals: B,L,D

Day 13, Jan 22th

Galápagos-Quito

AM: Transfer out hotel – San Cristobal airport, flight to Quito. Overnight

Accommodation hotel. Meals: B,L,D

Day 14, Jan 23th

Hotel-Airport

Drive to airport for flight.

Meals: B