

**EBIO 319: Tropical Field Biology****Instructors:**

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This course consists of a 2-week trip to Belize to examine first-hand the biology of the two most diverse ecosystems on earth: the coral reef and the tropical rainforest. Days will be spent in the field making observations and collecting data; lectures in the evenings will cover topics including diversity of tropical organisms and habitats, rainforest ecology, coral reef biology, cave biology, symbiosis, and conservation of tropical biodiversity. Selection of students for the course is determined through an application and interview with the instructors. While a background in biology is desirable (minimally including EBIO 202 and EBIO 213), individuals lacking this background but having a special interest in the tropics are encouraged to enroll.

**Learning Objectives:**

By the end of this course, students will be expected to be...

- able to recognize common species that live in the rainforest and on the reef.
- familiar with some of the methods used to conduct research in the tropics.
- able to keep a well-organized and accurate field notebook.
- able to live and work productively in basic conditions in remote locations.
- able to communicate effectively using a blog.

**Location:**

The class will travel together from Houston to Belize. The first part of the course will take place at Glover's Reef Research Station on a small island in Glover's Atoll, a UNESCO World Heritage Site (<http://wcsgloversreef.org>). The second part of the course will be spent at Las Cuevas Research Station (<http://www.lascuevas.org>), a remote rainforest camp located in Chiquibul National Forest on the mainland. Accommodations at both field stations will be rustic, with dorm-style rooms, shared bathrooms and no air-conditioning or hot water. An additional night will be spent at the Tropical Education Center, an eco lodge located in a tropical savanna. Transportation between sites will be by private bus or boat.

**Tuition and Course Fee:**

Rice University tuition for this course is \$2,000. An additional course fee of \$2,500\*\* covers the costs of all student transportation costs, including international airfare, local transportation, accommodations, meals, site fees, licensed marine guides, and taxes. The course fee is due on February 15, 2017 and is non-refundable (the fee is used to cover the cost of students' transportation and accommodations, which must be purchased ahead of time to ensure availability). *Other expenses not included in the trip cost include personal gear (see below), vaccinations, medications, and any other personal expenses.*

**\*\*Any student who is unable to pay the tuition or course fee should speak to the instructors.**

**Course Schedule (subject to change):**

<b>Date</b>	<b>Activity</b>	<b>Accommodations</b>
16-May	Travel from Houston to Belize	Glovers Reef Research Station
17-May	Reef Day 1	Glovers Reef Research Station
18-May	Reef Day 1	Glovers Reef Research Station
19-May	Reef Day 1	Glovers Reef Research Station
20-May	Reef Day 1	Glovers Reef Research Station
21-May	Reef Day 1	Glovers Reef Research Station
22-May	Reef Day 1	Glovers Reef Research Station
23-May	Travel to Tropical Education Center	Tropical Education Center
24-May	Travel to Las Cuevas	Las Cuevas Research Station
25-May	Rainforest Day 1	Las Cuevas Research Station
26-May	Rainforest Day 2	Las Cuevas Research Station
27-May	Rainforest Day 3	Las Cuevas Research Station
28-May	Rainforest Day 4	Las Cuevas Research Station
29-May	Rainforest Day 5	Las Cuevas Research Station
30-May	Travel to Houston	

**General Requirements:**

Students are expected to participate in all activities, including pre-departure meetings, field exercises and lectures, and to follow instructions given by the course instructors. Students will (1) research a topic and two taxonomic groups prior to departure, which will form the basis for presentations to the group during the course; (2) create a field journal that documents daily activities, observations, and species seen; and (3) use excerpts from the field journal to write blog entries that relate activities and sightings to the themes discussed during the course and will include notes and photos of observations of members of their taxonomic groups.

**Required Reading:**

Bridgewater, S. (2012) *A Natural History of Belize: Inside the Maya Forest*. University of Texas Press.

Levinton, J.S. (2009) *Marine Biology*. Oxford University Press, pp. 432-455 (PDF available on Owl-Space)

**Recommended Reading:**

Kricher, John (1999) *A Neotropical Companion: An Introduction to the Animals, Plants, and Ecosystems of the New World Tropics* (2nd ed.), Princeton University Press.

Sheppard, C.R.C., Davy, S.K., Pilling, G.M. (2009) *The Biology of Coral Reefs*. Oxford University Press

**Required Materials:**

Valid passport, swimsuit, mask, snorkel, fins, Neoprene dive booties, full body lycra dive skin, long pants (synthetic material is better than cotton; jeans are NOT recommended), knee-high rubber boots, two 1-L water bottles (Nalgene® or similar), waterproof notebook (Rite in the Rain® or similar), digital watch with alarm, raingear (poncho or raincoat), sunscreen.

**Recommended Materials:**

Laptop, mosquito repellent, waterproof binoculars, long sleeve cotton shirts, hiking socks (synthetic or wool), hat, polarized sunglasses, jacket or fleece, sandals/flip-flops, comfortable shoes for walking in town (e.g. tennis shoes), electrolyte drink packets (Gatorade® or similar). *A waterproof digital camera, dive light, caving helmet, and headlamp will be provided for each student.*

**Grading:**

Grades will be calculated out of a total of 200 points. The point breakdown by assignment is shown below and rubrics for each assignment are available on Owl-Space. Final course grades are determined using a straight scale, with the following cutoffs (98-100% = A+; 93-97 = A; 90-92 = A-; 88-89 = B+; 83-87 = B; 80-82 = B-; 78-79 = C+; 73-77 = C; 70-72 = C-; 68-69 = D+; 63-67 = D; 60-62 = D-; < 60% = F).

Assignment	Points per assignment	Number of assignments	Subtotal
Owl-Space quizzes on required readings	5	6	30
Taxon identification sheets	12	2	24
Blogs – pre-departure	2	1	2
Blogs – daily	3	15	45
Blogs – wrap-up	5	1	5
Presentations – taxon briefing	6	2	12
Presentations – topic lecture	12	1	12
Field notebooks	30	1	30
Participation	40	1	40
<b>Total</b>			200

**Note:**

Any student with a documented disability needing academic adjustments or accommodations must contact Disability Support Services (<http://dss.rice.edu/>) located in the Allen Center, Room 111 and is requested to speak with one of the instructors prior to the beginning of the course. All discussions will remain confidential.