

# LEHIGH IN COSTA RICA

December 26, 2011 – January 14, 2012

## EES-042 The Natural History of Costa Rica (3 credits of natural science)

This course will expose students to the unique *interaction* of ecology, geology, and climate that has shaped the natural history of Costa Rica. Topics will include population, community, and ecosystem ecology, as well as evolution and natural selection as they pertain to the biota of Costa Rica. Biodiversity and conservation biology will also be a major focus of the course. The course will expose students to the natural history of Costa Rica via classroom lectures, electronic media, observations, and field exercises. Each student will write a research report on a topic related to some aspect of natural history that was emphasized during the course. Students will also produce a written journal that includes their daily observations/perspectives on natural history in Costa Rica.

### COURSE OBJECTIVES

- Learn about the geologic history of Costa Rica with respect to formation of the land bridge. The role of biogeography in determining species diversity and the distribution of populations.
- Learn about the characteristics of populations, communities, and ecosystems with a focus on Costa Rica. This includes a survey of the following communities: Tropical moist forest, cloud forest, seasonal dry forest, Pacific intertidal systems, and mangrove systems.
- Understand the determinants of climate systems in Costa Rica and their influence on community structure and function (Holdridge Life Zone system).
- Investigate the role of soil and climate in determining community structure, productivity, and diversity.
- Introduce students to the theory of evolution and natural selection using Costa Rican flora and fauna as examples.
- Understand the world biodiversity crisis and Costa Rica's efforts to assess and preserve biodiversity.
- Investigate plant community succession as it relates to geologic hazards (e.g. volcanoes, landslides, etc.).

### **Possible Course Activities:**

- Lectures on various aspects of biodiversity and conservation in Costa Rica.
- Field trips and lectures at La Selva Biological Station (rainforest ecology), Palo Verde Biological Station (dry forest ecology), San Luis Biological Station (cloud forest ecology), Cabo Blanco Absolute Reserve (dry forest and Pacific tide pool ecology), Tortuguero National Park (Caribbean conservation area for nesting sea turtles), and the Osa Peninsula (global biodiversity "hot spot").
- Visit to an active volcano and hear lectures about geologic hazards in Costa Rica.
- Visits to museums natural history, art, culture, and history.

- River trips and eco-tourist activities.

## **EES-042 FACULTY**

**Professor Donald Morris, Earth and Environmental Science, Email: [dpm2@lehigh.edu](mailto:dpm2@lehigh.edu)**

**Professor Morris** is a faculty member in Lehigh's department of Earth and Environmental Science and has lived and conducted research in the tropical moist forests of Venezuela and in the lake district of Argentina. Professor Morris, along with Professor Weisman, have taught Lehigh's study abroad course in Costa Rica for 13 years.

## **Pre-requisites and Requirements**

No pre-requisite exists for this course. This course fulfills 3 credits of Lehigh's natural science requirement and we are attempting to attract students with diverse backgrounds, especially those that may be interested in majoring in earth and environmental sciences. Spanish is **NOT** required, but if you do speak Spanish you will have ample opportunity to sharpen your skills.

All participants are **REQUIRED** to attend the 6 class meetings listed below during the fall semester of 2011. These class meetings will provide an important foundation prior to our arrival in Costa Rica. Completion of some Blackboard electronic modules is also required prior to departure for Costa Rica.

**All participants are REQUIRED to attend 6 class meetings during the fall semester of 2011.**

Tuesday, October 4<sup>th</sup> at 5 p.m.

Tuesday, October 18<sup>th</sup> from 5 p.m. - 7 p.m.

Tuesday, October 25<sup>th</sup> from 5 p.m. - 7 p.m.

Tuesday, November 1<sup>st</sup> from 5 p.m. - 7 p.m.

Tuesday, November 8<sup>th</sup> from 5 p.m. - 7 p.m.

Tuesday, December 6<sup>th</sup> at 5 p.m.

**LOCATION: TBA**