Spring 2016 Tropical Field Biology – Biol 335

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**Course objectives:**

1. Introduce concepts in conservation of biodiversity recognizing the conflict between global human sociopolitical and socioeconomic pressures and ecological sensitivity to these activities. We focus on Costa Rica as a case study because it is a biodiversity “hotspot” and a location where conservation practices have been implemented with uncommon success.
2. Provide an opportunity to gain experience in articulating viewpoints on aspects of conservation biology
3. Provide direct experience in travel to Costa Rica and thereby gain a perspective on
	1. A perspective on the global impact of individual consumers
	2. A perspective on how the first world is perceived from the developing world
4. Meet the requirements of LASC Area 10

**Goal Area 10: LASC Objective**

*Goal: To improve students' understanding of today's complex environmental challenges. Students will examine the inter-relatedness of human society and the natural environment. Knowledge of both bio-physical principles and socio-cultural systems is the foundation for integrative and critical thinking about environmental issues.*

**Student Learning Outcomes**

1. *Explain the basic structure and function of various ecosystems and human adaptive strategies within those systems.*
2. *Discern patterns of interrelationships of bio-physical and socio-cultural systems.*

3. *Describe the human institutional arrangements (social, legal, political, economic, and religious) that are evolving to deal with environmental and natural resource challenges.*

4. *Evaluate critically environmental and natural resource issues in light of understandings about interrelationships, ecosystems, and institutions.*

1. *Propose and assess alternative solutions to environmental problems including issues involving sustainability.*

6. *Articulate and defend the actions they would take on various environmental issues.*

 **Grading Rubric**

15% Citizenship (attendance with attitude, contribution to the *esprit du corps* and group experience)
10% Paper discussion participation
10% Exam on Readings
10% Book report
15% Field note book
40% Student Academic Conference preparation and presentation

**Citizenship (15%)**

This course has two faculty instructors with deep experience in field ecology, but a significant component of the experience of this course is the interaction you have with other students in the class, and therefore the interactions that others have with you. Be cognizant that this course is a shared experience. Not only do we gain from each other during discussions and sharing your respective “expert” knowledge, but we will be living and traveling together as a cohesive group in a foreign country. Each person’s behavior has an impact on the experience of everyone else in the group so do your best to make that contribution a positive one.

**Discussion facilitation, opening, question (10%) and paper summaries (10%)**

The lecture component of this course is in discussion format where we (i.e., you) each take turns leading the discussion. Everyone is expected to have preread the assigned articles before coming to class. In addition to reading it, facilitators openers and question askers should each (independently) prepare a brief summary of the reading to hand around to everyone. Everyone else is expected to participate, offering facts and opinions based on past experience, and can certainly (please do!) pose their own questions.

**Book report (10%)**

The book report based on the *Green Phoenix* is designed to give everyone an appreciation how little biology is actually involved in biological conservation. Moreover, you may be as impressed as I as that a field biologist was able to morph himself into a political operator in order to achieve his conservation goals. The book report is due before we leave on the trip.

**Be an expert (%5)**

We will see many things on our trip. We cannot possibly acquire expertise is all of them before we go, but we can each read up on ONE THING about tropical field biology and be the resident expert within our group on that subject. When we encounter that subject on the trip you can impress and amaze your classmates with your in-depth knowledge and contribute to the experience of everyone. Before we leave for trip, each person is required to choose their ONE THING and prepare a one-page summary of your knowledge. There is a limit of one topic per student to maximize the knowledge we will carry with us in the group.

Suggested topics (feel free to suggest something else):

|  |  |
| --- | --- |
| Ant lions  | Lianas |
| Army ants | Lizards – ctenosaurs, basilisks, geckos |
| Bromeliads | Coffee production in coops |
| Capuchins | Morpho butterflies |
| Conchs | Orchids |
| Epiphytes | Pochote trees |
| Fish of the rocky reef (we have a list of likely ones) | Ecotourism as a model for conservation |
|  | Quetzals (trogans) |
| Frigate birds | Scorpions |
| Hermit crabs | Sloths |
| Howler monkeys | Spiders  |
| Hummingbirds | Strangler figs |
| Intertidal invertebrates (we know the common ones) | Termites |
| Leaf-cutter ants | Toucans |
|  | Tree ferns |
| Volcanic activity, geothermal energy | Laguna Arenal, hydroelectric power and irrigation canals in Guanacaste |
|  | Popular batidas in pulperias |

**Field note book (15%)**

A field note book is a hybrid of a diary and a travel log. It is a written record of your travel experience. By definition, the things you write in it are unique to your own experiences, and your own reactions to thinks we will experience on the trip. Everyone will get something different out of anything we do because of the differences we bring to the course. The field note book is also a place to record new knowledge such as the names of people, places, and things, the price of gallo pinto or a café con leche, the ferry schedule at Puntarenas or key Spanish vocabulary you would like to refer to later. Carry the field note book with you wherever you go and jot down information whenever something noteworthy occurs, or during a slow period whenever there is some time for reflection. “Rite in the Rain” books are perfect for this. They cost about $8 each.

**Student Academic Conference (40%)**

We will divide up into groups of two or three and choose a topic to research while we are in Costa Rica. The goal is to do a powerpoint presentation at the Student Academic Conference on Tuesday April 12. Take lots of photos to use in your presentation. Ask the resource people we will encounter on the trip for information about your topic. Ask local people for their perspective. The topic can be anything relating to conservation biology.