Conservation Biology and Practice in Brazil’s Atlantic Forest

Global Seminar
University of Colorado Study Abroad Program
EBIO 4100/5100

Syllabus
May Term 2013

T. Kittel, Faculty Director

Course Goals –

The objective of this field course is to give you hands-on experience in principles and practice of conservation biology. The course will be held in a ‘conservation crisis’ setting—the Atlantic Forest of Brazil. We will explore conservation strategies in this human-dominated biome, where successful strategies can only occur when they address socioeconomic issues.

This global seminar is for upper-division undergraduates and graduate students with an interest in applied conservation biology and human dimensions of environmental change. Method of instruction emphasizes experiential learning through field exercises and research projects. Key to your training will be opportunities to undertake work related to on-going, operational programs of an in-country environmental NGO (non-governmental organization). Such work will be as group research (for students enrolled in EBIO 4100) or individual research projects (for graduate students in EBIO 5100).

Dates: 13-30 May 2012 (2½ weeks)

Location –

The course will be hosted by the Instituto de Pesquisas Ecológicas (IPÊ; Institute of Ecological Research), a Brazilian environmental NGO’s. IPÊ has implemented integrated, local community conservation programs for the past 20 years throughout Brazil. We will work out of their headquarters campus in Nazaré Paulista, a rural municipality in São Paulo state. This location provides the socio-environmental context to successfully learn about on-the-ground conservation solutions. Website: [http://www.ipe.org.br/english](http://www.ipe.org.br/english).

Midway through the course, we will travel to the Serra do Mar Biodiversity Corridor which stretches over 1000 km along the South Atlantic coast. Here, we will stay for 4 days within a state park that protects roughly half of the Corridor and which is proactive in reducing conflict between conservation priorities and communities embedded in the park.
**Key Course Topics** –

- The Atlantic Forest – A conservation hotspot
- Conservation biology – Introduction
- Ecological principles – Review
- Origins and geography of biodiversity
- Endangered species conservation
- Communities as units for conservation
- Ecosystem services – Watershed integrated assessment
- Conservation medicine
- Restoring connectivity in human-dominated landscapes
- Disruption of global biogeochemical cycles
- Global climate change & conservation planning
- Conflict resolution
- Environmental education

**Program Director** –

Dr. Timothy Kittel is a research ecologist at CU’s Institute of Arctic and Alpine Research (INSTAAR). He teaches field courses in *Winter Ecology* at CU’s Mountain Research Station and *Conservation Biology* and *Field Ecology* in Brazil and the Dominican Republic. Dr. Kittel’s teaching approach is to facilitate experiential learning. email: kittel@colorado.edu; website: http://culter.colorado.edu/~kittel/.

**Class size:** 10-15 students

**Required Textbook** –


**Prerequisite:** EBIO 2040 – *Principles of Ecology*, or equivalent 2000 or higher-level survey course in EBIO, ENVS, GEOG, ATOS, Anthropology, etc.

**Credits:** 3. Course credits go towards fulfilling ENVS’s field course & applications requirements and EBIO’s 4000 course series requirement. The course meets CCHE requirements for contact hours—see table.

**Evaluation and Grading** –

Evaluation is based on: class assignments, research project, participation, and a journal.

The grading breakdown is:

- Assignments 30%
- Individual project 40%
- Class participation 25%
- Journal 5%

Final grades assigned as follows: A 90-100%, B 80-89%, C 70-79%, D 50-69%, F <50%
### 2013 Course Schedule

#### Preliminary

<table>
<thead>
<tr>
<th>Class day</th>
<th>Day of week</th>
<th>Date</th>
<th>Topics &amp; Activities (tentative)</th>
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|           | Arrival     | 13-May-13  | Arrival – Site orientation – Local hike  
Welcome Dinner  |
| 1         | Tuesday     | 14-May-13  | Course introduction  
The Atlantic Forest – A Conservation Hotspot  
Conservation Biology – Introduction  
Conservation Case Study – e.g., Black Lion Tamarin  |
| 2         | Wednesday   | 15-May-13  | Ecosystem Services Conservation – Watershed Integrated Assessment  
Local Fieldtrip, Fazendinha – Atibainha Watershed  |
| 3         | Thursday    | 16-May-13  | Principles of Endangered Species Conservation  
Case Study – Jaguars as Landscape Detectives  
Individual Project Essay I: Conservation Biology of Brazilian Species of Concern  |
| 4         | Friday      | 17-May-13  | Fieldtrip–Serra do Mar Biodiversity Corridor – Day 1  
Case Study – Serra do Mar State Park  
Field: Toposequence I – Mangrove & Restinga survey (by boat)  
Case Study – TAMAR Sea Turtle Project (lecture)  |
| 5         | Saturday    | 18-May-13  | Fieldtrip–Serra do Mar Biodiversity Corridor – Day 2  
Integration of Human Community Projects and Conservation Goals  
Local Fieldtrip/Demonstration Project – Quilombo Fazenda or Cambury  |
| 6         | Sunday      | 19-May-13  | Fieldtrip–Serra do Mar Biodiversity Corridor – Day 3  
Landscape-Integrated Conservation  
Disruption of Global Biogeochemical Cycles  
Field: Toposequence II – Montane Forest survey  |
| 7         | Monday      | 20-May-13  | Fieldtrip–Serra do Mar Biodiversity Corridor – Day 4  
Forest hike: Praia da Almada  
Local Demonstration Project – TAMAR Sea Turtle Project (site visit)  |
| 8         | Tuesday     | 21-May-13  | Case Studies: Pontal do Paranapanema – Conservation and Development Economics,  
Biological and Legal Aspects of Landscape Conservation  |
| 9         | Wednesday   | 22-May-13  | Principles of Landscape Conservation  
Individual Project Essay II: Landscape Conservation and Human Communities  |
| 10        | Thursday    | 23-May-13  | Local Fieldtrip/Demonstration Project – Reforestation Nursery and Plantation Assessment  
Cultural Activity: Capoeira evening  |
| 11        | Friday      | 24-May-13  | Case Study – Human Community Projects and Conservation in the Atibainha Region  
Demonstration Workshop – Local Women’s Cooperative workshop  
Individual Project III – Species Conservation Plan (research)  |
| 12        | Saturday    | 25-May-13  | Case Study – Socio-Environmental Survey in Atibainha/Cachoeira Watersheds  
Local Fieldtrip: Visit to the home of Medicinal Plants Community Elder  |
|           | Free day    | 26-May-13  | Free Day – Cultural Activities in Atibaia (optional)  |
| 13        | Monday      | 27-May-13  | Individual Project III – Species Conservation Plan  |
| 14        | Tuesday     | 28-May-13  | Conservation & Climate Change  
Individual Project III – Species Conservation Plan  |
| 15        | Wednesday   | 29-May-13  | Case Study – IPÊ’s Story  
Individual Project Presentations  
Farewell Dinner  |
|           | Departure   | 30-May-13  | Departure  |

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