

Conservation Biology and Practice in Brazil's Atlantic Forest

**Global Seminar
University of Colorado Study Abroad Program**

EBIO 4100/5100

**Syllabus
May Term 2012**

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: 14-31 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>.

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 –

The Atlantic Forest of South America: Biodiversity Status, Threats, and Outlook. Carlos Galindo-Leal & Ibsen de Gusmão (eds). 2003. Island Press. ISBN-10: 155963989X. (Currently out of print. Used copies at <http://amazon.com>, also search: <http://www.bookfinder4u.com/IsbnSearch.aspx?isbn=155963989X&mode=direct>)

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%

Course Schedule (Preliminary, subject to change) –

Class day	Day of week	Date	Topics & Activities (tentative)
	Monday	14-May-12	Arrival – Site orientation – Local hike Welcome Dinner
1	Tuesday	15-May-12	Course introduction The Atlantic Forest – A Conservation Hotspot Conservation Biology – Introduction <i>Conservation Case Study – e.g., Black Lion Tamarin</i>
2	Wednesday	16-May-12	Ecosystem Services Conservation – Watershed Integrated Assessment <i>Local Fieldtrip, Fazendinha – Atibainha Watershed</i>
3	Thursday	17-May-12	Principles of Endangered Species Conservation <i>Case Study – Jaguars as Landscape Detectives</i> Individual Project Essay I: Conservation Biology of Brazilian Species of Concern
	Friday	18-May-12	<i>Case Studies: Pontal do Paranapanema – Conservation and Development Economics, Biological and Legal Aspects of Landscape Conservation</i> <i>Local Fieldtrip/Demonstration Project – Reforestation Seedling Nursery and Plantation</i>
4	Saturday	19-May-12	Principles of Landscape Conservation Individual Project Essay II: Landscape Conservation and Human Communities
5	Sunday	20-May-12	<i>Case Study – Socio-Environmental Survey in Atibainha/Cachoeira Watersheds</i> <i>Local Fieldtrip: Visit to the home of Medicinal Plants Community Elder</i>
6	Monday	21-May-12	<i>Fieldtrip–Serra do Mar Biodiversity Corridor–Day 1</i> Case Study – Serra do Mar State Park <i>Field: Toposequence I – Mangrove & Restinga survey (by boat)</i> Case Study – TAMAR Sea Turtle Project (lecture)
7	Tuesday	22-May-12	<i>Fieldtrip–Serra do Mar Biodiversity Corridor–Day 2</i> Integration of Human Community Projects and Conservation Goals <i>Local Fieldtrip/Demonstration Project – Quilombo Fazenda or Cambury</i>
8	Wednesday	23-May-12	<i>Fieldtrip–Serra do Mar Biodiversity Corridor–Day 3</i> Landscape-Integrated Conservation Disruption of Global Biogeochemical Cycles <i>Field: Toposequence II – Montane Forest survey</i>
	Thursday	24-May-12	<i>Fieldtrip–Serra do Mar Biodiversity Corridor–Day 4</i> Forest hike: Praia da Almada <i>Local Demonstration Project – TAMAR Sea Turtle Project (site visit)</i>
9	Friday	25-May-12	<i>Case Study – Human Community Projects and Conservation in the Atibainha Region</i> <i>Demonstration Workshop – Local Women's Cooperative workshop</i> Individual Project III – Species Conservation Plan (research)
10	Saturday	26-May-12	<i>Local Fieldtrip/Demonstration Project – Reforestation Site Assessment</i> Individual Project III – Species Conservation Plan
	Sunday	27-May-12	Free Day – Cultural Activities in Atibaia (optional)
11	Monday	28-May-12	Individual Project III – Species Conservation Plan
12	Tuesday	29-May-12	Conservation & Climate Change Individual Project III – Species Conservation Plan
13	Wednesday	30-May-12	<i>Case Study – IPE's Story</i> Individual Project Presentations Farewell Dinner
	Thursday	31-May-12	Departure