Conservation Biology and Practice in Brazil's Atlantic Forest

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"Conservation Biology and Practice in Brazil's Atlantic Forest Global Seminar" is for upper-division undergraduates and graduate students with an interest in applied conservation biology and human dimensions of environmental change. The course is held in a 'conservation crisis' setting, the Atlantic Forest of Brazil. The class explores conservation strategies in this human-dominated biome, where successful strategies can only occur when they address socioeconomic issues.

Education Abroad Program Name

Conservation Biology and Practice in Brazil's Atlantic Forest Global Seminar

Sponsoring Institution/Organization

University of Colorado Boulder

Program Type

Field Study Program

Course Basics

Level: Undergraduate

Number of Credits for Course: 3

Number of Credits for Education Abroad Program: 3

Does this course carry major/minor credit? Elective credit?

Yes – meets field/laboratory and senior-level course requirements for the Ecology & Evolutionary Biology major and application and specialization requirements for the Environmental Studies major.

Typical Course Enrollment: 10

Language of Instruction: English

Course Duration: Short-term: 3-4 weeks

Time Spent On-Site: Short-term: 3-4 weeks

Last Taught: Summer 2014

How many times has this course been taught? 4 times

Curriculum Strong Points/Innovations

Instruction emphasizes experiential learning through field activities, class workshops, and research projects. A strength is that this curriculum is tied to (1) demonstration of local, innovative conservation programs and (2) on-site visits to communities in conflict with natural resource management agencies and those where collaboration is more the rule.

What are the specific objectives for this course?

The goal of this overseas field course is to give students hands-on experience in both principles and practice of biodiversity conservation. Objectives are for students to learn that: (1) species biology is fundamental to understanding the vulnerability of species to environmental change, (2) threats to species and their habitat arise from actual or perceived needs of people that utilize natural resources directly (that is, local communities) and indirectly (e.g., through globalization), and (3), as a result, successful conservation relies on integration of cultural values and environmental and economic sustainability in conservation programs.

How does the course make use of modes of instruction, assessment, and learning at the study abroad site that may differ from home institution models?

During the course, students learn through 3 modes not commonly available at home institutions. First, researching the details of conservation case studies under the guidance of the principal researchers of these programs and, if local, coupled with visits to project sites. Second, meeting and talking with elders of communities that are principal stakeholders in conservation plans and/or have traditional knowledge (e.g., medicinal plants, land practices) that can be integrated into conservation programs. Finally, student-run 'Synthesis Workshops' in which students integrate their research, field, and community experiences on a given topic and through which they derive key lessons related to course objectives.

How does the course enrich the classroom experience through use of location and/or unique resources?

The course takes place on the professional training campus of one of Brazil's largest conservation organizations (Instituto de Pesquisas Ecológicas). This rural site provides students with both the socioeconomic context and institutional infrastructure to successfully learn about on-the-ground conservation solutions. Throughout the course, students meet and interact with conservation scientists and visit on-going programs to understand firsthand the practicalities of coupling biological understanding with conservation action. On a 4-day field trip to a critical biodiversity corridor in Brazil's Atlantic Forest, students visit traditional communities embedded in, and in conflict with, the area's state park. In this setting, students meet and learn from community elders issues related to the integrity of their community and come to appreciate the realities that are the basis for both the conflict and hopes for its resolution.

How is the course integrated into the curriculum of the home institution?

The course is an upper-division Advanced Ecology course offered by the Department of Ecology and Evolutionary Biology (EBIO) at the University of Colorado, Boulder (CU). The course fulfills requirements for EBIO and Environmental Studies majors for field or laboratory classes based on hands-on experience. The course is one of CU's Study Abroad Programs' Global Seminars which offer overseas programs led by campus faculty and are part of the University's commitment to the IIE Generation Study Abroad pledge.

Did you consult any resources on education abroad that were particularly helpful in designing this course? If so, please describe.

While developing the course, I found the following publications particularly useful:

The Forum on Education Abroad. 2011. *Standards of Good Practice for Short-Term Education Abroad Programs*, 4th Edition. The Forum on Education Abroad, Dickinson College, Carlisle, PA

Hovde, Peter. 2002. Opening Doors: Alternative Pedagogies for Short-Term Programs Abroad. Chapter 1, in: *The Guide to Successful Short-Term Programs Abroad*, edited by Sarah E. Spencer and Kathy Tuma. NAFSA: Association of International Educators, Washington, D.C.

Lee, Ron. 2002. Reflections on Field Experience. Chapter 17, in: *The Guide to Successful Short-Term Programs Abroad,* edited by Sarah E. Spencer and Kathy Tuma. NAFSA: Association of International Educators, Washington, D.C.

Faculty Bio

Dr. Timothy Kittel is an ecologist and climate scientist with INSTAAR. He has over thirty years of professional research experience in global change science, with contributions to the science of climate-biosphere interaction, historical climatic change, and regional ecosystem and climate modeling. Dr. Kittel's work on climate change impacts has been included in IPCC and US National Assessments. His current research foci are on approaches for considering climate change uncertainty in biodiversity conservation planning and climate change in high mountain regions. Dr. Kittel has published over 80 peer-reviewed papers and book chapters in ecology and climate dynamics.

Dr. Kittel's teaching emphasizes field instruction in ecology and conservation biology. He currently teaches Winter Field Ecology in the Rocky Mountains and study abroad courses on conservation in Latin America.