Conservation Biology and Practice in Brazil's Atlantic Forest Global Seminar
University of Colorado Education Abroad Program
EBIO/ENVS 4340 & 5340

Syllabus – Maymester 2023

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 workshops and individual research projects.

Dates: 15 May – 1 June 2023 (3 weeks)

Locations: The course will be hosted by the Instituto de Pesquisas Ecológicas (IPÊ; Institute of Ecological Research), a Brazilian environmental NGO (http://www.ipe.org.br/english). IPÊ has implemented integrated, local community conservation programs for the past 30 years throughout Brazil. The first 4 days will be spent at their Professional Education Campus in Nazaré Paulista, a rural area outside of the City of São Paulo.

From there, we'll spend four days on the coast in the Serra do Mar (Sea Mountains) State Park. The Park is part of an extensive biodiversity corridor. Here, we'll hike through this prime example of Atlantic Evergreen Rain Forest and learn about conservation programs of rural communities embedded in the Park from their leaders.

For the second half of the course, we will move to one of IPÊ's sites in the drier western part of the Atlantic Forest. The region is the Pontal do Paranapanema, a rural area in western São Paulo state. We will work out of Morro do Diabo State Park and IPÊ's research station in the town of Teodoro Sampaio. This location provides both the socio-ecological context and institutional infrastructure to successfully learn about on-the-ground, community-based conservation solutions – including reforestation, forest corridors, and agroforestry.

***Prerequisite*:** 2000- or higher-level course in EBIO, ENVS, GEOG, ANTH, IAFS, or other discipline related to ecology and/or socioeconomic development (confer with instructor).

Credits: 4. Credits go towards fulfilling ENVS's Applications requirement and EBIO's 4000-series and Lab/Field course requirements.

Class size: 12-15 students

Program Resources –

Program overview brochure: http://abroad.colorado.edu/?go=BrazilGS
Program Handbook and other pre-departure information will be provided ahead of time.

Key Course Topics –

1) The Atlantic Forest
   a) Biodiversity hotspots – Background
   b) Atlantic Forest biodiversity – Species and landscapes
   c) Human-dominated landscapes
   d) Brazil's Forest Code and National Reserve System

2) Conservation biology
   a) Ecological principles – Review
   b) Origins and geography of biodiversity
   c) Biology of species vulnerability
   d) Conservation medicine

3) Threats to biodiversity
   a) Drivers of habitat loss and fragmentation
   b) Climate change
   c) Disruption of global biogeochemical cycles

4) Conservation practical approaches
   a) Linking human community sustainable development and conservation
   b) Restoring connectivity in human-dominated landscapes
   c) Ecosystem services – Watershed integrated assessment
   d) Environmental education
   e) Application of indigenous knowledge
   f) Conflict resolution

Program Staff –

Faculty Director: Dr. Timothy Kittel is a research ecologist and climate scientist at CU's Institute of Arctic and Alpine Research (INSTAAR). He teaches winter and summer field ecology courses at CU's Mountain Research Station and for the past 18 years has being teaching conservation biology field courses in Brazil and the Caribbean. Dr. Kittel's teaching approach emphasizes experiential learning. email: kittel@colorado.edu; website: http://culter.colorado.edu/~kittel/.

Co-Instructor: Gabriela Cabral Rezende (MS Wildlife Conservation) is a research scientist at IPÊ. She is Coordinator for IPÊ's conservation program for the Black Lion Tamarin, a rare and highly endangered primate found only in the Atlantic Forest of São Paulo state. email: gabriela@ipe.org.br.

Textbooks – Copies of all readings will be available on-site, no charge.

1) *The Atlantic Forest of South America: Biodiversity Status, Threats, and Outlook.* Carlos Galindo-Leal & Ibsen de Gusmão (eds). 2003. Island Press. ISBN-10: 155963989X. Out of print. If you're interested in having your own copy, a reasonable used copy should be ~$40; see: http://www.bookfinder4u.com/IsbnSearch.aspx?isbn=155963989X&mode=direct.

2) *Conservation Biology for All.* Navjot Sodhi & Paul Ehrlich (2010): Oxford University Press. ISBN 9780199554232. Free online: http://www.conbio.org/images/content_publications/ConservationBiologyforAll_reducedsize.pdf

Evaluation and Grading –

Evaluation is based on written assignments, individual research project, participation in field and in-class activities, and a field journal. Grading breakdown is: Assignments 30%, Individual project 40%, Class participation 25%, Journal 5%

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