Course Syllabus

Biodiversity and Natural Resource Conservation in Bali
ENVI 3010 (3 Credits / 45 class hours)

SIT Study Abroad Program:
Indonesia: Community Nature Conservation in Bali

PLEASE NOTE: This syllabus represents a recent semester. Because courses develop and change over time to take advantage of unique learning opportunities, actual course content varies from semester to semester.

Course Description
This course focuses on biodiversity conservation in the ecological context of tropical Asian reef and rainforest systems. Against a backdrop of historical and contemporary patterns of natural resource use patterns in Indonesia and particularly Bali, we examine the responses of the biota to large-scale habitat loss and fragmentation, extraction of resources (for example timber and fishes) and changes to hydrological and nutrient dynamics that accompany conversion of the landscape to agricultural dominance. Understanding the processes and patterns of change gives us insight into potential solutions, which may include government-initiated programs, privately-funded ventures and community-based approaches. We will examine these different models by means of social, economic and environmental indicators of success, looking in particular at integration of these aspects and potential for long-term, sustainable solutions.

Our emphasis on community-based conservation will consider ways in which grassroots activities can be coordinated for the mutual benefit of humans and other biota, recognizing the role of modern communities as critical agents in ecosystem function and maintenance.

Field excursions will focus on identification and analysis of ecological processes and patterns, threatening processes, as well as observation and participation in conservation activities.

Learning Outcomes
On successful completion of this course students will be able to:

- Describe how geography and physical environment act as determinants of biodiversity and endemism in flora and fauna. This includes understanding how Bali’s original habitats and wildlife evolved, and the key environmental features that maintain diversity.
- Evaluate how human settlement and resource-use patterns have led to habitat loss and fragmentation, species endangerment and ongoing threats to terrestrial and marine biodiversity.

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• Communicate principles and practices of conservation biology, with a particular focus on habitat fragmentation and management of threatened species and populations.

• Assess conservation strategies to ameliorate habitat loss and population reduction, including tropical forest restoration, captive breeding and release programs, protected area management and community conservation approaches.

• Discuss principles of sustainability, and how these apply to multifaceted reality. This includes integrating economic, environmental and social aspects of sustainability to find creative solutions to the problems posed by population growth, environmental exploitation and tourism, among others.

Language of Instruction
The program will be taught in English. Language instruction in Bahasa Indonesia will be given during orientation and while at the program base in Bedulu, to facilitate a level of immersion in the cultural milieu, vital to the holistic understanding of the context of conservation in Bali.

Course Requirements

Course Schedule

*Please be aware that topics and excursions may vary to take advantage of any emerging events, to accommodate changes in our lecturers’ availability, and to respect any changes that would affect student safety. Students will be notified if this occurs.

Course Schedule

Weeks 1-2 Arrival, in-country orientation, intensive language and culture instruction at Kerambitan (orientation site) and SIT Bedulu program centre. Three-night homestay at Bedulu. This part of the program is designed to settle participants into their new cultural and environmental context. Lectures during this period will focus on patterns and processes in tropical ecology and biodiversity as well as the historical, geographic and cultural backdrop to resource use patterns in Bali. On short excursions we will visit localities where we expand on these topics, and on our first field project we will examine conservation values of remnant vegetation in urban areas.

Lecture Series Topics
History of Bali
Introduction to Indonesian terrestrial ecosystems, flora and fauna
Introduction to marine ecosystems of Bali
Biogeography of Indonesian flora and fauna

Field Activities and Demonstrations
Drop-off in Ubud
Temple visit to investigate a religion/conservation interface
Mapping and biodiversity assessment of urban remnant vegetation

Readings

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**Weeks 2-3** We undertake an extended excursion including fieldtrips to: Bali Barat National Park and the northwest coast of Bali to examine forest and coral reef ecology and conservation; Baluran National Park in East Java, where we investigate the different management challenges presented by high habitat diversity and a diverse mega-fauna; and the cool highlands of central Bali, where tropical montane forests in a world heritage area host many regionally endemic flora and fauna. This excursion provides exposure to a range of environmental concerns and explores the ways in which tourism can be a part of a holistic conservation strategy. Field projects in this portion of the program will focus on coral reef ecology and monitoring.

**Lecture Series Topics**
- Biodiversity: patterns and processes in terrestrial and marine ecosystems
- Ecology of tropical forest systems
- Ecology of tropical marine ecosystems
- Factors and processes threatening biodiversity in Bali
- Principles and practices of Conservation Biology
- Conservation models: public, private and community
- Sustainability, the quadruple bottom line approach

**Field Activities and Demonstrations**
- Marine survey methods, fish and coral species identification (snorkeling)
- Bird survey and identification methods
- Invasive species impacts on ecosystems

**Readings**

**Weeks 4-5** Fieldwork, lectures and group projects on Nusa Penida Island. This portion of the program provides an intensive examination of community-based conservation initiatives, assessing the economic, social and environmental aspects of the Bali Myna Reintroduction Project. We will stay at the volunteer quarters of Friends of the National Parks Foundation (FNPF), working with the staff on a variety of community- and field-oriented activities. Depending on field conditions and FNPF needs, we will contribute to monitoring of the Bali Mynas and other bird species, ecological inventory work and development of reforestation techniques among other field projects. Community-related activities may include teaching English and working on the organic vegetable demonstration plots. We will examine the roles of tourism and other livelihoods as part of the island’s economy and social fabric, and take a special look at how conservation awareness has grown on the island with the establishment of awig-awig (customary law) protection for the Mynas. Our final study projects will flow from the activities we undertake while on the island, and will emphasize the integration of the different strands of sustainability in this particular setting.

**Lecture Series Topics**
- Reforestation: principles and practices
- Endangered species management: theory and practice
- Conservation of a critically endangered species, the Bali Myna
- Ecosystem services, the community-environment interaction
- Nature-based tourism: the good, the bad and the ugly
- Towards a sustainable future for Bali’s communities and ecosystems

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Field Activities and Demonstrations
Vegetation survey methods, emphasis on habitat restoration plots
Monitoring surveys for Bali Mynas and other bird species
Restoration nursery maintenance work
Development of restoration techniques for a highly challenging physical environment
Community engagement and reciprocity activities on Nusa Penida Island

Readings
Friends of the National Parks Foundation Nusa Penida project: www.fnpf.org/what-we-do/nusa-penida-bali (information on the work of FNPF on Nusa Penida including links to more detailed accounts of current projects and general information on the organization).

Week 6 Study Project completion, final exam and evaluation. This period allows for more intensive exploration of research topics chosen previously by students, culminating in a research paper and oral presentation.

Evaluation and Grading Criteria

Description of Assignments
Students will be assessed through a variety of means: the Field Journal gives students an opportunity to record their experiences and interactions with the environment in a flexible, creative manner, as ongoing journal entries can combine their selected observations and analysis with illustrations such as field sketches, diagrams, maps and others. The skills and discipline of keeping a field journal are among the most important tools of a fieldworker. The Group Ecology Projects will use the combined field efforts of the students to gather simultaneous data from a series of field sites, and will be presented as short papers and oral reports.

Grades will be allocated as follows:
Field Journal 15%
Group Ecology Projects 25%
Final Written Examination 50%
Participation in all program activities 10%

Participation
Participation in the course activities is also evaluated. Performance is based on punctual attendance at all activities; informed participation in all activities, including group discussions, field trips, and lectures; and encouragement and support of group members in their studies and contribution to maintaining a positive learning atmosphere in the group.

A full description of the expectations and assessment guidelines for each of these assignments is provided in the student handbook, which students will receive at the commencement of classes.

Grading Scale
94-100% A
90-93% A-
87-89% B+
84-86% B
80-83% B-
77-79% C+

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74-76%  C
70-73%  C-
67-69%  D+
64-66%  D
below 64  F

**Expectations and Policies**

**Show up prepared.** Be on time, have your readings completed and points in mind for discussion or clarification. Complying with these elements raises the level of class discussion for everyone.

**Have assignments completed and submitted on schedule, and done according to the specified requirements.** This will help ensure that your assignments are returned in a timely manner.

**Examinations.** Students are given examinations covering the major content of the program’s lectures, field trips and readings.

**Attendance.** All students are required to attend all lectures and to participate in all discussion and analysis sessions. All excursions are mandatory and students must discuss absences with the Academic Director before the planned departure.

**Participation.** Participation is not the same as attendance. All students are expected to participate fully in all aspects of the course. This means asking pertinent questions to the course’s guest lecturers, engaging in discussion and analysis during lectures, group discussions and on excursions. Students are expected to complete the required reading in a timely fashion, and to demonstrate their understanding of texts through reflection, writing, and discussion.

**Please refer to the SIT Study Abroad handbook** for policies on academic integrity, ethics, warning and probation, diversity and disability, sexual harassment and the academic appeals process.

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