COURSE INFORMATION

Credits
6 credits

Prerequisites
The course requires 01:070:212 The Life of Primates, an introductory ecology course or the equivalent as determined by the instructors. Students must apply to enroll in this course and participation is conditioned on the approval of the instructor.

Requirements Filled by the Course
This course fills the Primatology requirement of the Evolutionary Anthropology major.

Course Description and Objectives
This program offers a unique opportunity for students to gain a hands-on immersive educational experience within Indonesia. The program will consist of two courses:
“Advanced Primate Behavior and Ecology” and “Applied Conservation and Ecosystem Management,” each approximately 10 days in duration. The first course will take place at Tuanan Biological Research Station in Central Kalimantan on the island of Borneo. Students will learn how to collect behavioral data on wild orangutans, quantify habitat characteristics, collect biological samples, use GPS units and GIS software to generate maps, and analyze and summarize data in the form of a scientific report. While in Borneo, students will also visit Nyaru Menteng, a rehabilitation center for orangutans that have been displaced from their habitat or rescued from the illegal pet trade.

The second course will take place in Halimun Salak Nasional Park in West Java and the Seribu Islands and will present big-picture issues in conservation, environmental policy, and ecosystem management. Practical components related to these large issues will be explored during field-based activities and field trips. Some of the field components will involve field trips focused on the interface between human activities and the ecosystem. These will include visits to a coral reef plantation, where students will assist the restoration program by planting new coral, and the conservation program for the critically endangered Javan silvery gibbons. Students will explore the javan rainforest, which is home to many rare and endangered plants and animals, including three endemic primates (Javan gibbons, Javan leaf monkeys, and silvered leaf monkeys). At the end of the course, students will present about their experiences in a group PowerPoint presentation to faculty and students.

The full program will take 3 1/2 weeks, which includes five-ten days for each course, a trip to Bogor following the first course, a three day visit to Jogjakarta, and a brief stay in Jakarta at the end of the program. During these trips students will have the opportunity to experience some of Java’s cultural traditions, visit the famous Bogor Botanical Gardens, and learn about the history of Indonesia.

**Learning Goals**

- understand challenges posed by climate change, human impacts on ecosystems, and extinction risks
- understand principles and techniques in applied ecology and ecosystem management
- gain familiarity with criteria for setting environmental policy goals
- explore sustainable approaches to manage forests, agricultural areas, and ecosystems
- achieve proficiency in field methods including survey, census, and data collection
- apply quantitative methods to analysis of field data
- appreciate the complexities of primate social behavior patterns in the wild
- understand the relationship between evolutionary forces, the environment, and behavioral adaptations in the nonhuman primates
- apply many of the methodological techniques used in primatological research
- appreciate some of the complex issues facing primate conservation efforts
- explore conservation issues and strategies in peat swamp habitats
Required Textbooks
No textbooks are required for this course. Students will receive a course packet with assigned readings for each lecture.

Course Structure
Each module of the course will have two main components: field exercises and lectures. Field exercises will be conducted primarily during the day and lectures will be arranged as periodic morning and evening activities.

Field exercises will take place at Halimun Salak National Park in Central Java and Tuanan Biological Research Station in Central Kalimantan. Some of the field components will involve field trips focused on the interface between human activities and the ecosystem. These will include visits to a organic tea farm run by local community members, a coral planting project, and orangutan rehabilitation centers.

Field exercises are designed to introduce students to various aspects of ecological fieldwork. Students will work closely with the professors and teaching assistants on the following group field exercises:

1. Habitat Description & Phenology: developing basic habitat profiles in terms of tree height characteristics and distribution, as well as seasonal production of primate foods
2. Using GPS & GIS: navigating, marking waypoints and trails, and creating maps using GPS, as well as estimating travel distances and home ranges using GIS techniques
3. Primate Census: surveying primate species in the area via direct observations, nest counts, and acoustic surveys
4. Behavioral Data Collection: collecting systematic behavioral data on orangutans
5. Biological Sample Collection: collection of plant samples and non-invasively collecting, storing, and processing biological samples, including feces and urine
6. Mechanical & Nutritional Properties of Primate Foods: measuring food mechanics and nutrition in the field as well as processing samples for laboratory analysis
7. Meeting with local community members: at both Halimun and Tuanan we will meet with local community members to learn how they have developed alternative livelihoods that are complementary with living within or next to a conservation area

Lectures will take place at both field stations as well as during visits to institutions on Java and Borneo, including Universitas Nasional, the Bogor Botanical Gardens.

The independent research project will be carried out throughout the course. With the help of the faculty, students will develop and carry out a field-based research project in small groups. This will be an original project of students’ own choosing on some topic of primate behavior or ecology. Students will first research, develop, and submit a research proposal. Once approved, students will carry out the project, collecting data on
wild primates or their habitats at Tuanan. Students will then analyze data, and orally present their results to the entire class at the end of the course. The faculty and teaching assistants will work with students to help with research design and to offer advice during data collection, analysis, and writing.

**Student Evaluation**
Course grades are based on participation, field exercises, one exam, and the independent research project. Active participation in a field course is very important and students will be graded on participatory effort throughout the course. All graded field exercises, the exam, and the final independent research project presentation must be completed if students wish full credit.

**Grading (100 pts. total)**
- Field Exercises 40%
- Participation 10%
- Group-based Research Projects 50%

**Academic Integrity** ([http://academicintegrity.rutgers.edu/](http://academicintegrity.rutgers.edu/))
Violations of academic integrity include: cheating, fabrication, plagiarism, denying others access to information or material, and facilitating violations of academic integrity. Consult the above webpage to learn more about what constitutes a violation and what sanctions are taken.

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**COURSE SCHEDULE**

**PRE-DEPARTURE**
*Completed at the end of the semester*

**DEPARTURE**
*July 2th*

**ARRIVE IN INDONESIA**
*JULY 3RD*

**Arrival in Indonesia and Tuanan Research Station**
- Course Orientation and Introduction to Tuanan
- Habitat Description and Botanical Sampling – Ecological Monitoring
  - Training in GPS, setting up botanical plots, and phenology
- Primate Census Techniques Behavioral Data Collection Techniques
  - Conduct diurnal primate census
- Behavioral Data Collection Techniques
  - Collect behavioral data
  - Orangutan Behavioral Ecology
- Camera Traps
• Peatland Ecology
• Independent Research Projects
• Community Activity - Integrating Research and Conservation
  o Community development and education activities in Tuanan village

**Bogor**
• Visit Botanical Garden: The Challenge of Climate Change
  o Visit Bogor Botanical Gardens
• Visit to Cultural Village

**Halimun Salak National Park**
• Approaches to Sustainable Ecosystem Management
• Community-Based Conservation
  o Visit community-based silkworm project
  o Visit community-based tea plantation
  o Visit local community living inside national park
• Silvery Gibbon Research Project
  o Guest lecture and introduction

**Jogjakarta**
• Visit to Prambanan Hindu Temple
• Visit to Borobudur Buddhist Temple
• Batik Village
• Dinner at Sultan’s Palace

**Seribu Islands - Thousand**
• Applied Conservation Biology
  o Sea turtle release and mangrove planting
  o Mangrove restoration
  o Coral reef restoration
  o LIPI Biological Field Station
• Recreation and beach time!
• Closing reception

**DEPARTURE TO US**
  **July 23rd**
READING LIST

All of these are REQUIRED— we have extra articles in folders for suggested readings as well; This is a tentative schedule that may change once we get confirmations from guest lecturers.

JULY 4:
Introduction to Tuanan by Dr. Atmoko and Dr. Vogel

Primate habitats & ecological monitoring (Methods) by Dr. Vogel


July 5:
Introduction to Peatland Ecology by Dr. Vogel


Behavioral data collection techniques (Methods) by Rebecca Brittain


July 6:
Introduction Orangutan Behavioral Ecology by Dr. Vogel


July 7:

**Primate Diet and Nutrition** by Dr. Erin Vogel


**JULY 13:**

**Introduction to Halimun Salak National Park** by Dr. Sugardjito and Head of Park Services


**Biodiversity Threats & Extinction** by Rebecca Brittain


**JULY 14:**

**Silvery Gibbon Conservation** by TBD


**July 15:**

**Indonesian National Parks** by Dr. TBD (UNAS Professor)


**July 17:**

**Discussion About Religion and Conservation**


**July 21-22:**

**Field trips and guest lectures about coral reefs, mangrove restoration, sea turtles, and sea eagle rehabilitation**