**“PRIMATES, ECOLOGY, AND CONSERVATION IN INDONESIA”**

**Halimun National Park & Tuanan Biological Research Station**

**Summer 2014**

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**Credits**

3 credits

**Corequisite**

01:070:347

**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

The first module, “*Study Abroad* -*Applied Conservation and Ecosystem Management*” (070:345), 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. The second module, “*Study Abroad* - *Advanced Primate Behavior and Ecology”* (070:347) will focus on fundamental concepts related to the study of primate behavior and ecology in a tropical setting. In particular, activities will focus on the ecology and conservation of peat-swamp forest habitats as well as the behavior and ecology of the primates inhabiting them, especially the orangutan. This second module will focus on the contribution of research combined with community development initiatives to issues raised in the first module.

Students will gain actual field experience in ecological and primatological data collection techniques, and will design and conduct their own independent research projects over the course of the second module. The course will be equivalent to an upper-level primatology and ecology course, but with a greater emphasis on field techniques, data collection, and research design.

There are several components to the course: classroom lectures, informal discussions and group field exercises that will be conducted in the forest, and an independent research project based on data collection techniques learned during the field exercises, readings, and classroom lectures.

### 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 National Park in West 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 silk worm farm run by local community members, a canopy trail hike through the forest, and a village community living inside the park.

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

7. Mechanical & Nutritional Properties of Primate Foods: measuring food mechanics and nutrition in the field as well as processing samples for laboratory analysis

8. 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 Borneo Orangutan Survival Foundation, the Schmutzer Primate Center, the Bogor Botanical Gardens, and the Nyaru Menteng orangutan rehabilitation center.

The independent research project will be carried out during the second module of 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 25%
* Exams 15%
* Participation 10%
* Group-based Research Projects 50%

**Academic Integrity (**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.

**Course Schedule**

***WEEK 1 – Orientation, Travel to Indonesia, and Halimun National Park***

* Course Orientation
* Conservation Issues and Challenges in Indonesia
  + Forest and canopy trail walk
* Primate Census Techniques
  + Conduct diurnal primate census
* Endangered Species Conservation and Management

***WEEK 2 – Halimun National Park, Bogor, Jakarta, and Tuanan Research Station***

* Habitat Description Techniques
  + Set up botanical plots, collect herbarium and phenology data
* Approaches to Sustainable Ecosystem Management
* Community-Based Conservation
  + Visit community-based silkworm project
  + Visit community-based tea plantation
  + Visit local community living inside national park
* The Challenge of Climate Change
  + Visit Bogor Botanical Gardens
* Primate Conservation in Indonesia
  + Visit Borneo Orangutan Survival Foundation and/or Schmutzer Primate Center
* Integrating Research and Conservation
  + Community development and education activities in Tuanan village
* Research Design: Methodology and Data Collection Techniques
  + Learning GPS and GIS, biological sample and behavioral data collection

***WEEK 3 – Tuanan Research Station and Thousand Islands***

* Independent Research Projects
* Research Design: Quantitative Methods and Statistics
* Natural History of the Primates of Indonesia
* Primate Social Organization and Behavior
* Primate Dietary Ecology
* Extinction Risk and Human Activity
  + Visit Nyaru Menteng orangutan rehabilitation site

***WEEK 4 – Thousand Islands and Travel to USA***

* Independent Research Presentations
* Applied Conservation Biology
  + Sea turtle release and mangrove planting
* Recreation and beach time!
* Closing reception