SYLLABUS

Introduction to Neotropical Ecology & Field Projects
Course equivalent in Biology Department is BI410/510: Neotropical Ecology Field Projects
Instructor: Tobias Policha
Language of Instruction: English
UO Credits: 4 (Graded)
Contact Hours: 40
UO campus & various locations in Ecuador

UO based class time/location: Tuesdays from 5:00-6:50 in 116 Esslinger.
Office hours: Fridays 10:00 -11:50 am or by appointment in 116 Esslinger.

COURSE DESCRIPTION
The Neotropical Ecology Program consists of two courses that provide opportunities for students to learn firsthand about some of the important ecosystems found in the neotropics including: lowland rain forest, middle elevation montane and cloud forests, and the diverse ecosystems of the high elevation shrub lands (páramo). The first course begins on the UO campus in the spring and prepares students for their studies in Ecuador. It involves students developing a field project that will be conducted in Ecuador. The completion of this field project is considered part of this graded portion of the program. The second course includes field work in all of the ecosystems mentioned above, as well as lectures lead by an international team of biologists and field guides.

COURSE OUTLINE
The ‘Introduction to Neotropical Ecology’ portion of this program will occur on the University of Oregon campus during spring term 2022. Data collection will occur in Ecuador while in the field. Specific field locations and dates are given in the syllabus for the field study course. Final products from the field projects can vary and will be discussed during the spring as the projects are being designed.

COURSE OBJECTIVES
The goals of this course are to:

- Introduce students to some of the important concepts in tropical ecology, and some of the major groups of organisms that we will encounter while in the field.
- Give students the opportunity to experience and explore some topics of their own while studying in Ecuador.
- Give students the opportunity to produce a project, or group of projects, related to their experiences in Ecuador.

Student Outcomes. Students who successfully complete this course will:

- Understand the major drivers of tropical biodiversity.
- Be able to begin identifying diverse organisms when we get to the field.
- Design a project proposal. This will be turned in to the course instructor before going to Ecuador. Details of the format will be discussed during the spring term course.
• Provide a bibliography that is used to develop and analyze the project.
• Conduct the project while in Ecuador. The type of project is up to the student but it will be developed in consultation with the instructors. The project can be experimental or observational.
• The final projects may require work back at home after the visit to Ecuador. The final deadline will be determined based on each student’s plans following the end of the program in Ecuador. All projects will be submitted no later than the end of August.

Objectives for the Spring Term Prep Meetings
• read, discuss and write about the material from books and articles on neotropical ecology and conservation.
• learn some natural history of groups of organisms we are likely to see in Ecuador.
• develop a research proposal for a short field study to be conducted in the Amazon basin at the Mandarí Panga Jungle Camp.
• develop field identification skills for birds, plants, insects and mammals that we will see in Ecuador.
• prepare for field work by setting up a field notebook and learning how to use field guides that will be used while in Ecuador.
• discuss logistics for travel in Ecuador.

INSTRUCTIONAL METHODOLOGY
There are four parts to this course:
1. Based on lectures, labs, and assigned readings develop a working knowledge of tropical ecology and organisms.
2. Development of the project proposal before going to Ecuador.
3. Gathering data while in Ecuador. This will occur while participating in group activities as well as when given individual time to work on the project.
4. Producing the final project.
5. A field journal that is to be kept throughout the time that we are in Ecuador.

METHOD OF EVALUATION (GRADING)
Students will be evaluated on all five parts of the course: the lectures and labs (through written and practical exams at the UO), the project proposal, data collecting, the final product, and the field journal. This course must be taken for a grade.
 Attendance at all meetings, for the entire class period, is mandatory. Please contact Peter prior to class if you are going to be absent.

Spring Term Prep Course (~40%)
• Participation/Contribution (~10%) attendance and discussions (quality and quantity) for all classes, completion of other requirements in a timely and adequate manner.
• Quizzes/Homework (~10%) announced and unannounced. Some quizzes will be short (for a few points, they may be unannounced) on the readings. These are mainly to ensure that everyone comes to class prepared. Other quizzes will be longer, announced and worth more points. Occasionally there will be homework assignments. The total points for all of the quizzes and homework will be totaled at the end of the term and used to calculate the 20% portion of the final grade.
• Exam (~20%) There will be a two-part exam given during finals’ week. (The official time for the final is Thursday but I’d like to give it at an earlier time that is agreed upon by everyone since that gets close to when we leave for Ecuador.) One will be a written exam covering readings, lectures and discussions. The second will be a lab practical (both slides and specimens) on field identification of animals and plants we will likely encounter in Ecuador.
• Research Proposal each group (about 2-4 students) will develop a research project, with references, to be conducted in Ecuador. The report will be due finals week and will be graded
as part of the summer course that includes the project.

**Summer Term Field Course (~60%)**

- **Project proposal (~20%)**, developed before going to Ecuador.
- **Gathering data while in Ecuador (~10%)**. This will occur while participating in group activities as well as when given individual time to work on the project.
- **Producing the final project (~10%)**.
- **A field journal (~20%)** that is to be kept throughout the time that we are in Ecuador, this will include species lists, observations, and reflections.

**COURSE READINGS**

There will be little time to read during our stay in Ecuador. These are required readings to do BEFORE arriving in Ecuador.

**Books that students need to purchase**

Forsyth, A and K. Miyata. (1987) *Tropical Nature: Life and Death in the Rain Forests of Central and South America*. 248 pages. Touchstone. (This is out of print but there are many cheap used copies available online.)

Ridgely, R.S. and P. J. Greenfield. (2001) *Birds of Ecuador, Vol 2: Field Guide*. Cornell University Press. (Students should read the introduction and bring the colored plates with them to Ecuador to use for identifying birds.)

OR


**Other required readings (these will be provided in pdf format)**

Excerpts from Jorgensen, P. M. & León-Yanez, S. (eds) (1999) *Catalogue of the Vascular Plants of Ecuador*. Missouri Botanical Garden Press, St. Louis, Missouri. We will be reading 20 pages from the introduction that summarize information about the various ecosystems in Ecuador.


Pitman, N. (2000) *The sadness of loving trees*. An email from Joe Kane shared with a previous Neotropical Ecology student. This is an unpublished essay by Nigel Pitman that Joe Kane sent in an email.


**Optional (but highly recommended) books**: 


**Optional books**: 


TENTATIVE SPRING SCHEDULE
More details will be made available as needed.

- **Weeks 1-6:** there will be lectures, discussions and additional readings based on the readings from the book *Topical Nature*. Along the way we will learn about and apply many ecological and evolutionary concepts as they relate to the neotropics. *Tropical Nature* is a collection of essays about the natural history of the neotropics. It is a wonderful introduction to the neotropics, but it is written for a general audience. We will use this book as a jumping off to more technical and specific readings. The book will also help introduce you to some potential research topics for your own research project.

- **Weeks 5-9:** We will form research groups by the fifth week and then work on the research proposal during the next several weeks. A research proposal, with references, will be due at the end of the term. The quality and the proposal and research will be graded as part of the summer course.

- **Weeks 6-8:** we will spend several weeks learning about the diversity of plants, insects, birds and mammals that we are likely to encounter while in Ecuador. We will learn how to identify major groups and focus on some interesting specific aspects of the ecology and evolution of these groups. Some potential topics for inquiry include: lekking behavior in *Andean Cock-of-the Rock* birds, characteristics and behavior of neotropical mixed-species flocks, ecology and conservation of *Polylepis* forests, the evolution of *Páramo* plant communities, and the behavior and ecology of the primates of *Yasuní*.

- **Weeks 8-9:** we will read, discuss and learn about several environmental and conservation issues that are important in the areas that we will be visiting in Ecuador. Of particular interest are concerns related to the preservation of biodiversity in *Yasuni National Park* and the *Huarani Ethnic Reserve* (areas with the highest measures biodiversity for several groups of organisms). This is an area where there has been major impacts from oil exploration and questions about indigenous sovereignty.

- **Week 10** take exams.

- **Finals Week:** submit research proposal, pack for Ecuador.

The University of Oregon is working to create inclusive learning environments. Please notify me if there are aspects of the instruction or design of this course that result in disability related barriers to your participation. You are also encouraged to contact the Accessible Education Center (formerly Disability Services) in 164 Oregon Hall at 346-1155 or uoaec@uoregon.edu.

We all have crises now and then. If you are having a problem that interferes with your ability to do the work in this class, please tell me about it as soon as you can. I am willing to make some kinds of special arrangements when the need is real and when you have done your best to deal with the situation and let me know about it in a timely manner.