

Syllabus: Tropical Forest Ecology

BIOSC 1220

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Summer 2017

Prerequisites: Two semesters of general biology for majors

Course Description: This course provides a solid foundation in tropical forest ecology. It is designed to prepare students to carry out research on the interaction of plant and animal communities and to engage the serious challenges facing Neotropical forests. Students will learn to compare pristine to altered forests identifying key factors in forest decline and regeneration. Students will examine each of the diverse elevational zones that comprise the Amazonian watershed. The highlight will be a visit to Ecuador's Yasuni National Park, an untouched area of the Amazon with the highest bio-diversity on Earth.

Location: The primary location is the Iyarina Forest Reserve located at 550 m above sea level on the headwaters of the Amazon. Additional environments will include:

Páramo – 4,300 m Andean watershed polylepis forests and grasslands
Cloud Forest – 1,800 m epiphyte rich Yanayacu Reserve
Amazonian lowland forest – 275 m Yasuni National park

Course Objectives:

To understand how biodiversity came to exist and why it is higher in tropical rainforests.
To learn how tropical forests are categorized by altitude, disturbance and succession.
To understand the basic elevational habitats of the watershed in relation to each other.
To understand plant animal interactions in terms of disturbance and dispersal.

To understand the role of carbon sequestration in tropical forests.
To understand how climate change will affect the Amazonian watershed.
To understand how the loss of key species contributes to the loss of other species.
To understand the potential of fragmentation in multi-use forests.

Course Requirements:

Ecology, natural history, and indigenous views assignment (20%)
Independent research project paper, due Sunday, August 7 by 11:59 pm (35%)
Independent research project presentation (15%)
Final exam (30%)

Notes: You are responsible for information presented during all field trips and all lectures for the final exam. Late assignments handed in after the deadline immediately lose one letter grade, followed by the loss of one additional letter grade per day.

Monday July 3 Arrive in Quito- Transfer to Hotel Real Audiencia

Week 1: June 5-10 The Ecuadorian Health care system and the problems it seeks to address

Tuesday July 4	Travel to Iyarina
Wednesday, July 5	Hike up the Canoa Yacu
Thursday, July 6	Travel to Estación Científico Yasuní
Friday, July 7	Canoe into Tiputini Biodiversity Station
Saturday and Sunday July 8-9:	Tiputini Biodiversity Station

Week 2 (July 10): Traditional Diet, and Health Consequences Dietary Change,

Monday, July 10	Canoe back to Estación Científico Yasuní
Tuesday, June 11	Travel back to Iyarina.
Wednesday, July 12	Free day
Thursday, July 13	Free day
Friday, July 14	Free day.

Saturday and Sunday July 15-16 Cosanga cloud forest Yanayacu Biological Station

Week 3-4: (July 17-21)

Monday, July 17	Lee Dyer
Tuesday, July 18	Lee Dyer
Wednesday, July 19	Lee Dyer
Thursday, July 20	Lee Dyer
Friday, July 21	Lee Dyer

Saturday and Sunday July 22-23

Monday, July 24	Work on projects at Iyarina
Tuesday, July 25	Work on projects at Iyarina
Wednesday, July 26	Work on projects at Iyarina
Thursday, July 27	Travel to the airport