Tropic Field Ecology

Program Description and Application

a course offered by

The Itasca Field Biology Program, University of Minnesota

supported by

The Institute for Field Education http://muskox.com
The International Institute of Tropical Forestry

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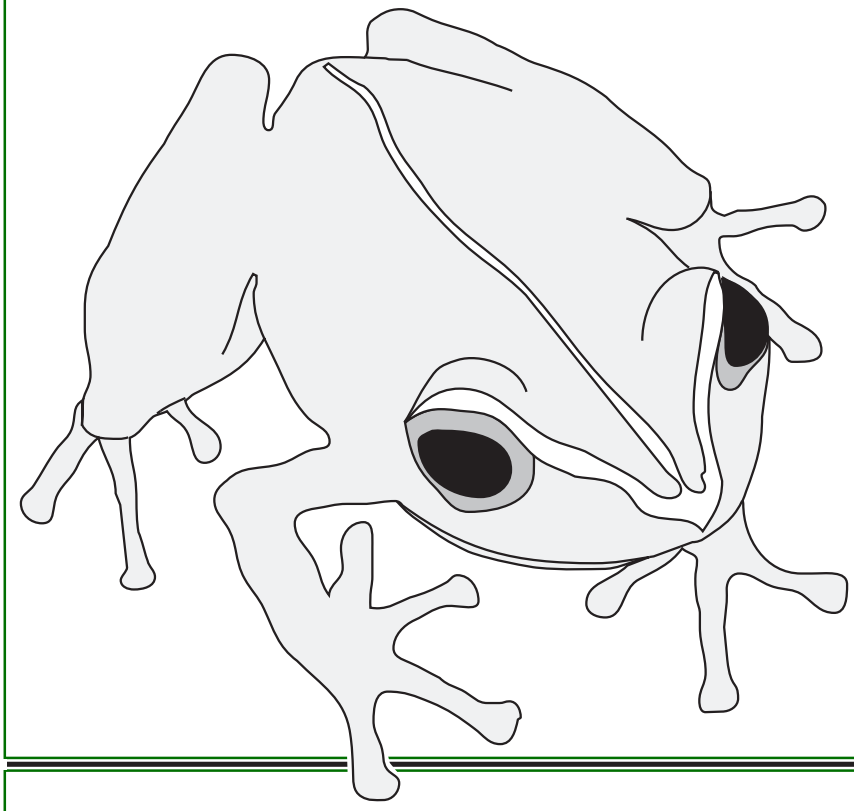
Research Expeditions



Integrating western and Indigenous knowledge of ecology in the Caribbean

Thank you for requesting this information. The application is located on pages 4 and 5 inside. We encourage you to apply early. Feel free to copy this and pass it on to a friend. We look forward to hearing from you!

Contact Dr. William Gould for information on Tropic and Arctic field ecology courses offered by the Institute for Field Education.

Program Description

Overall Objective

This program, begun in 1987 as an Arctic field course, provides the training a beginning research scientist needs to ask relevant questions and collect environmental data. Students explore topics in regional natural history, practice field sampling skills, develop research hypotheses, assist in ongoing studies in landscape and ecosystem ecology, and learn from local and indigenous experts.

Two Main Features

Education: Students learn to develop hypotheses and employ basic data-collection techniques in the unique setting of the Caribbean islands of Mona and Puerto Rico. More specifically, students:

- Learn the regional flora and fauna
- Discuss current research topics in tropic ecology
- Gain an understanding of land-use and ecological issues facing the region
- Gain an local "nonscientist" perspectives on the ecology of the region
- Generate a set of original research hypotheses
- Outline a research proposal
- Gain confidence and knowledge to design and conduct original research

Exploration: We encourage students to explore the regions we visit in a variety of ways. Ecologists often have less and less time to spend in the field — observing, listening, and gathering knowledge about the physical and natural systems they work in. This program permits you to take hikes, maintain a field journal, and gain insights into this special region of the earth.

Sample of Topics Covered

- The Caribbean landscape: Climate, geochemistry, topography, and disturbance - hierarchical controls on landscape patterns.
- The tropic ecosystem: The role of temperature, light, nutrients, disturbance, and organisms in above and belowground ecosystems.
- The tropic flora: Identifying dominant families and key species. Evolution of the tropic flora.
- The tropic fauna: Unique insects, amphibians, and reptiles of Mona and Puerto Rico. Plant-animal interactions.
- Plant community ecology: Identifying, sampling, and classifying plant communities. Understanding ecological controls on community composition.
- Soil ecology: Soil development and classification, ecosystem processes and soil organisms, soils and vegetation.
- Island biogeography: Islands as tools for the study of evolution and biodiversity.
- TEK - Traditional Ecological Knowledge: Understanding the landscape from local perspectives.
- Human use and current affairs: We look at land use changes, archaeological sites, development pressures, and large scale human influences.

Note: These very adventurous journeys do not require any special experience. We use the best equipment available, and have personal safety at the top of every list. Each participant receives a detailed set of information to help prepare for all aspects of the program. Upper division undergraduate and graduate credit will be offered through the Itasca Field Biology Program and the Department of Ecology, Evolution, and Behavior, University of Minnesota.

About the Institute for Field Education

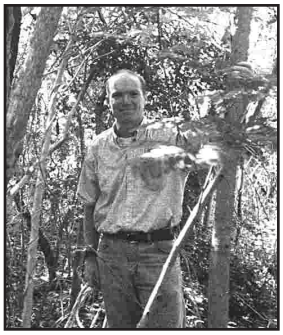
The Institute for Field Education offers ecology field courses in a range of ecosystems, particularly the Arctic and the Tropics. We introduce undergraduate and graduate students to quantitative field science and regional natural history. The format gives students a chance to gain practical field skills as well as the tools to develop research proposals. Each course involves study of natural history as well as ongoing research in landscape and ecosystem ecology.

Our mission is to provide a unique educational experience that immerses each student in the regional landscape and the research practices associated with field ecology. Our goal is that each student comes away with a practical understanding of the capabilities and limits of field research, a confidence to apply themselves to graduate study or field work in the natural sciences, and an enhanced appreciation of the land.

The Caribbean course setting

Our tropic courses take place on the Caribbean islands of Mona and Puerto Rico. We will begin by camping for a week on the beaches of the uninhabited island of Mona, off the west coast of Puerto Rico, exploring the coastal and dry inland habitats known for their rich biodiversity and cultural heritage. The second two weeks will be spent investigating ecosystems along a transect on the island of Puerto Rico, from coastal mangrove swamps, through lowland dry and moist forests to the rain forests and cloud forest of El Yunque national park. Puerto Rico is a mix of African, Caribbean, and Spanish cultures with increasing U.S. influence in the last several decades. Past cultural use of the landscape encompasses a wide variety of ecological knowledge in danger of being lost. We will meet duing the course with local residents who have traditional ecological knowledge of Caribbean ecosystems, and relate this to our growing understanding of the region.

The Staff



Dr. William Gould is a plant community and landscape ecologist who has been exploring the Arctic since 1977 and recently expanded his research to tropic ecosystems. His research includes the study of biodiversity patterns, description and mapping of vegetation, and analysis of vegetation change .

Dr. Grizelle González is a soil biologist studying the effects of soil organisms on decomposition in tropic, temperate, and arctic ecosystems. Her research has taken her from the forests and pastures of Puerto Rico to Taiwan and mainland China, Colorado, Alaska, and the Canadian Arctic.

Additional Information (Please Read Carefully)

Comfort/Discomfort. The regional climate ranges from mild to hot and dry or hot and humid with temperatures in the upper 80s. Rains are frequent, the sun is strong, and we will be outdoors most of the time. During the course, you may at times be wet, hot, hungry, tired, bug-bitten, sunburned and sore. These conditions are reduced dramatically by proper preparation. Guidelines will be provided.

First Aid. The staff is certified in Wilderness Advanced First Aid (Red Cross) to handle injuries. In the event of a medical emergency, we carry a radio capable of contacting rescue groups for evacuation. There is no doctor on the trip. People with health conditions or in need of frequent medical attention should not consider this program.

Modes of travel and living. Participants will be responsible for reaching San Juan, Puerto Rico. From there we will charter vans and boats to reach Mona Island. In the field, we will travel to sites by van and on foot. Some days will have considerable hiking. We may also access some sites by sea kayak. We will camp out at most sites. All food will be provided and students will team up and take turns preparing meals for the group.

Group Dynamics. A cooperative spirit is essential on these trips. People generally go through an adjustment time in a new and difficult environment. We will work with you to alleviate any problems or fears.

Keep a copy of this page for your records

Application For Admission

All trips are 3-4 weeks in the field

Part I. *Trip Preference and Cost.* There will be only one section of Tropic Field Ecology for the winter of 2001.

Price include 4 credits tuition, food, and gear not including clothing, sleeping bag, and miscellaneous personal gear. We will meet in San Juan, Puerto Rico, to begin our class. San Juan is a large metropolitan area and the capital of Puerto Rico.

Section 1. Mona Island and Puerto Rico. Dates: Dec. 28, 2001 to Jan. 18, 2002. Cost: $2400. This section of Tropic Field Ecology is designed to take place during the interim between fall and spring semesters. Students and staff will gather in San Juan, Puerto Rico for the trip to Mona Island. There we will camp at a relatively isolated location on one of Mona's beaches and begin learning about the tropic ecosystems amid Mona's rich biodiversity. We will be busy but have time for swimming, snorkling and hiking. Our final two weeks will be spent on the more populous island of Puerto Rico, visiting a variety of sites from coastal mangroves to high elevation cloud forests.

Part II. *Information About Yourself.* On separate paper, briefly describe:

1. Field courses or field work you have completed or in which you have participated.
2. Off-campus programs you have completed that may have relevance for wilderness travel and research.
3. Any special skills you bring to the group (this may include medical training, data gathering skills, camping skills, navigation skills, etc.).
4. Do you have any special needs (physical limitations, dietary needs, medical needs)?
5. A Brief Essay: Discuss how you would take advantage of this special opportunity. You should demonstrate how you would benefit academically and socially, and what motivates you to take on this challenge. Enthusiasm, compassion, character, and flexibility should be addressed.
6. Other materials needed: Please send a copy of your transcripts (unofficial o.k.). It is optional but highly recommended that you include a letter of recommendation from an academic source.

Part III. *Deposit:* Send a check payable to the University of Minnesota for $500. If you are not accepted it will be returned to you. If you are accepted, you will receive a letter and your deposit will be credited to the program cost. If you cancel up to two months before the program begins, all but $50 dollars will be returned to you. If you cancel after this time, you forfeit 50% of the program cost. Cancellations within one month of the program forfeit the full cost. If we find someone to replace you (we may have a waiting list), you will be refunded all but $50. After receiving your deposit, the University of Minnesota will bill for the remainder of the costs.

Part IV. *Data Sheet and Medical History.* Complete page 5 and leave no blanks! Put "none" or "n/a" if you must. Medical information should be provided with your application but the doctor's signature and insurance information can be provided anytime prior to departure.

Part IV. Data Sheet and Medical History

Please print clearly, leave no blanks, put "None" or "N.A." if no answer exists

First Name: Last Name:
Current Address:
City: State / Province: ZIP / Postal Code:
Country:

Current Home Phone with Area Code:
Alternate Phone Number:
Email address:

Your Birthdate (Month / Day / Year):

Your University and year (e.g., University of ..., junior, 4th year):
Social Security Number or Student Number:

Permanent Address:
City: State / Province: ZIP / Postal Code:
Country:

Emergency Contact Person:
Emergency Phone Number with Area Code:

Medical History

Height (in feet, inches):
Weight (in pounds):
Major Previous Illnesses:

Date of Last Tetanus or DPT shot:
Personal Medications Currently in Use:

History of Major Medical Problems in Family:

Major System Problems (e.g., Circulatory, Nervous, Digestive, Lymph):

Allergies:

Insurance Carrier and Policy Number:

Your Doctor's Name and Phone Number:

Doctor's Approval: As a physician for the person described above, I certify that the medical information on this page is true, to the best of my knowledge.

Signed: Date:

Dr. William Gould
PO Box 25000
San Juan, Puerto Rico 00928-5000

Checklist of Materials to Send

Part I. Copy pages 4 and 5 of this booklet for your records. Send one completed copy.
Part II. Send your responses on separate paper. Include unofficial transcripts and an optional letter of recommendation (or have them mailed directly).
Part III. Be sure you write your student number (social security number) on your check.
Part IV. Include the completed data sheet (the back side of this page).

Send your application to:

William Gould
International Institute for Tropical Forestry
Box 25000
San Juan, PR 00928-5000

After your application is received, it is reviewed and you will be contacted by phone or email. If you are accepted, we will send you additional information to help you prepare for the program.