Independent Study Project

ISPR-3000 (4 Credits / 120 class hours)

SIT Study Abroad Program:
Panama: Tropical Ecology, Marine Ecosystems, and Biodiversity Conservation

Course Description
The Independent Study Project (ISP) is designed to be the culmination of the Environmental Research Methods and Ethics course (ERME), the program’s two thematic courses, and the Spanish for the Natural Sciences course. Methods learned in ERME, topics discussed in the thematic courses, and language skills acquired during Spanish study should be considered during the research and selection of the ISP topic and applied throughout the ISP period. From the moment students arrive in-country, students will investigate and consult with the program staff and other academics potential topics of interest in order to gage the feasibility and scope of the project. This course requires intense responsibility, commitment, and independent work from students. ISP is a unique opportunity for undergraduate students to conduct original, independent research. Students earn four credits for the course.

Course Objectives
The main course objectives are:
- To provide students with the opportunity to conduct in-depth research on a particular topic, process, phenomenon, or aspect of Panamanian ecology or conservation
- To increase each student’s capacity for critical thinking and analysis of primary and secondary information sources
- To cultivate in students interest in and appreciation for scientific research
- To stimulate independent thinking and academic responsibility

Expected Outcomes
By the end of the course, students should be able to:
- Discuss in-depth their research topic and its importance as it relates to ecology and conservation in the Neotropics.
- Effectively implement appropriate research field methods and techniques for gathering data.
• Demonstrate an internalized and continual consideration for the awareness, development, and incorporation of ethical standards for appropriate environmental research.

• Identify the fundamental challenges to conducting effective fieldwork and research in a culture and natural landscape other than their own.

Course Requirements
Students spend a minimum of 120 field hours on the ISP course. Meetings are held with the academic director to discuss students’ progress on ISP topic research during the semester. Once a topic is selected, an ISP Advisor who is a specialist in the field is assigned to the student. Students are required to report to the ISP Advisor before, during, and after the ISP period. During the ISP period, students will communicate with the academic director, program assistant, or field coordinator twice per week by telephone.

The final paper should contain an Abstract in the language in which the paper is written, an Executive Summary (one page) in the opposite language (Spanish/English), Acknowledgments, Introduction, Literature Review, Research Question, Methods and Materials, Results, Discussion, and Conclusion. However, it is not obligatory that this information be provided in this order/organizational structure. The oral presentation should be approximately 30 minutes and discuss the research in which the student engaged.

Potential Areas of Interest for Research Topics
• Mega-projects: mining
• Mega-projects: Hydroelectric dams
• Alternative energy sources
• Effects of different land uses on coral reef health
• Potential for sustainable architecture and building in Panama
• Changes in soil quality as affected by human impact
• Local perspectives on globalization and its effects on forest-dwelling communities
• Linking the global economy with rural livelihoods
• Stakeholder analysis of a World Bank funded hydroelectric project
• Continuous impacts of a ten year old oil spill on marine life in the Caribbean
• The interface between local communities and protected areas
• Alternatives to tropical deforestation
• Potential for increased community forestry
• Indigenous forest management and natural resource use
• Indigenous, autonomous lands of Panama and the challenges they face
• Wildlife use by local populations
• The resplendent quetzal population of Chiriquí: challenges to its prosperity
• Effects of exotic species on forest regeneration
• Efforts toward habitat restoration in Panama
• Use of medicinal plants across Panamanian society
• Soil quality and the effects of erosion
• Subsistence agriculture and globalization
• Effects of eco-tones in a Panamanian rainforest
• Non-timber forest product use by indigenous and non-indigenous groups of Panamá
Fish populations in a Caribbean cove
Coral reef health
Effects of selection and anthropogenic use of mature secondary forest
Jaguar populations
Changes in bird populations across land use regimes
Shade and birdsong coffee: is it sustainable? Is it truly a just cup?
Organic agriculture in Panama: challenges to success
IMF and multilaterals in Panama: the effects of the debt burden on conservation in Panamanian
Environmental movements in Panama: successes and failures
Resource use on the agricultural frontier
The new law denominated “Ecological Crime:” details and consequences
National debt reduction and its effects on environmental protection
Linking availability of social services, poverty, and the natural resource base

Student Evaluation and Grading Criteria
The ISP will be graded based on the following:

- Quality of investigation: 25%
- Depth of analysis and insight: 25%
- Clarity and coherence of writing: 25%
- Oral presentation: 25%

The oral presentation will be graded based on the following:

- General organization: 7 pts
- Preparation: 5 pts
- Comprehensiveness: 8 pts
- Communication of information: 3 pts
- Handling of questions: 2 pts

Grading Scales and Criteria
Grades are given both fairly and rigorously and in accordance with the system below. They will reflect a combination of absolute quality of performance, progress made, the ability to take into account and assimilate the Academic Director’s and the instructor’s advice in assessing the work done. An “A” letter grade reflects exceptional work, perfect combination of academic competences and personal research and analysis. It shows great ability to integrate field-based investigation and personal reflection into a structured and well-argued paper. A “B” letter grade reflects serious and methodical work. A “C” letter grade shows the work meets the requirements but needs more in-depth reflection and personal involvement. A “D” letter grade is insufficient and clearly reflects lack of work or serious deficiencies.

The grading scale for all classes is as follows:
- 94-100% A
- 90-93% A-
- 87-89% B+
- 84-86% B
- 80-83% B-
- 77-79% C+

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74-76%   C
70-73%   C-
67-69%   D+
64-66%   D
below 64   F

Please see the SIT Study Abroad student handbook for policies on academic integrity, ethics, academic warning and probation, diversity and disability, sexual harassment, and the academic appeals process.

Please Note: Course content, lectures, and readings may be modified as needed. Should any change of class topics or lectures be necessary, students will be promptly notified.