



Environmental Field Study Seminar

ENVI-3500 (4 Credits / 60 class hours)

SIT Study Abroad Program:
Australia: Rainforest, Reef, and Cultural Ecology

The Environmental Field Studies Seminar (EFSS) introduces students to the skills required to observe, interpret, and function appropriately within the range of Australian environments and cultural contexts encountered on the program. The EFSS runs concurrently with, the Rainforest, Reef and Cultural Ecology Seminar (RRCES) but is most directly applied to the development of the Independent Study Project. Lectures and hands on learning activities are designed to familiarize students with developing hypotheses, methods, and analytical approaches to field based investigations in the natural and social sciences.

MAJOR COURSE OBJECTIVES

- o To introduce the student to field based learning in tropical Australia including issues of risk minimization and safety in a field setting.
- o To be able to use field observations and literature in developing insightful and testable research questions.
- o To document, and analyze ecological and cultural field data in a rigorous and responsible manner.
- o To practice critical and analytical thinking as well as communication of research findings.
- o To implement a working understanding and appreciation for the synthesis of experiential and classroom learning.
- o To develop attitudes, work habits, methods, and techniques essential to the successful completion of field study in general, and an Independent Study Project specifically.

EXPECTED OUTCOMES

On successful completion of this course students should be able to:

- 1) Demonstrate confidence and proficiency in the accurate collection and analysis of observational data in terrestrial and marine environments;
- 2) Communicate results obtained from primary data collected in the field, either in written or presentation format, with proper attention to stylistic conventions and format;
- 3) Describe the processes required for the successful development and implementation of a field based research project;

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- 4) Conduct and communicate a risk management plan to conduct field studies in a safe and responsible manner in natural and human built environments;
- 5) Analyze the strengths and weaknesses of methodologies used to assess ecological and human systems ;
- 6) Demonstrate a capacity for self-guidance, establishment of priorities, and dealing with uncertainty in the execution of field studies;
- 7) Execute ecological and sociological field studies in an ethically appropriate and culturally sensitive manner.

CLASS FORMAT

In keeping with SIT Study Abroad's experiential learning model (field-based pedagogical approach), the EFSS is designed to involve students in a range of projects that require them to use inductive and deductive reasoning processes to gain a better and more critical understanding of the world around them. Throughout the semester the EFSS relies on lectures, field excursions, required readings, as well as structured field projects, which provide students experience in developing testable hypotheses, experimental design, and field data collection techniques. Students use written reports and oral presentations to communicate results from field projects. The overall structure of the seminar provides a logical progression in skills development for students to build competence and effectively complete the Independent Study Project.

ASSIGNMENTS AND GRADES

Attendance in all aspects of the scheduled program is mandatory. Failure to attend and participate in program components is grounds for probation and/or dismissal from the program.

Natural History Field Notebook: Each student is required to develop a relevant and up to date natural history notebook that documents and interprets ecological and sociological information collected during field excursions. Information should be presented in a written and pictorial manner. Points are given for thoroughness, organization, neatness, creativity, and depth and quality of analysis.

Ecological Field Project: Each student collects data on the abundance, composition and diversity of bird communities from the suburban habitats surrounding their homestays. They then make comparisons between bird community composition and habitat features such as vegetation structure, age, and dominant plant life forms. Students also read and critique two published scientific papers on the study topic, as well as two past SIT Independent Study Projects related to the topic. Students write up a short report detailing the background, aims, findings and potential implications of their work. The overall goal of this project is to introduce students to the local environment and biota, field study methods, and the ISP process.

Interview Project: Prior to departure for the field modules, students work in small groups of 2-3 people to formulate a research question related to a human-environment interaction. Students then conduct an intensive interview with an Aboriginal elder during the camping trip to get his/her perspective about the study question. Upon return from the camping trip, students then administer interviews to a focus group that they have identified in order to further investigate their research question. Students present their findings to their peers in an oral presentation format and write a critique of the methods used in obtaining qualitative and quantitative data from respondents.

Rainforest Field Project: During the last 1.5 days of the Rainforest field trip students undertake a field project in small groups of 2-3 people. The project requires at least 8 hours of observation and data collection in the rainforest and modified habitats that surround our field station.

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Students may either develop their own research topic based on their interest, or they may approach the lecturer for assistance in developing a topic. In conjunction with staff, students develop appropriate methods, and collect, analyze and interpret the results of their investigations. Findings from the projects are communicated by each group in an oral presentation format.

Marine Field Project. During ten days on Lizard Island, students undertake an individual project in which they are required to examine niche overlap and competition between sympatric species of fishes located on the fringing reef in Watson's Bay. At the beginning of the week, buddy pairs of students work with the instructor to identify two focal species that they will study while snorkeling over seven, 2.5 hour, sampling periods. Students then analyze their results and write a written report in the format of a scientific paper.

For specific requirements, recommendations for approaching and structuring the assignments, and criteria for grading please refer to the Student Handbook.

1) Natural History Field Notebook	25 %
2) Ecological Field Project	12.5 %
3) Interviewing project	12.5 %
4) Rainforest field project	20 %
5) Marine field project	20 %
6) Demonstration of willingness and ability to undertake independent field study in the Australian cultural context.*	10%

*This includes cultural sensitivity, attitude, motivation, preparation for meetings, interaction with contact people, punctuality, etc. throughout the semester.

Course Text

Along with assorted handouts used during field exercises, students are required to read A Handbook of Biological Investigation by Ambrose, H.W., Emlen, D.J. & Bright, K., 2002, Hunter Textbooks Inc.

COURSE OVERVIEW BY WEEK:

Week 1 – Cairns, Port Douglas, and Atherton Tablelands

Over the course of the week students are required to make critical observations and formulate questions about the human and biotic communities we encounter.

Weeks 2&3- Cairns, Homestays

During the two week homestay portion of the program, students complete an ecological field project which assesses the interactions between birds and human habitation in their homestay neighborhoods. Students gain a better understanding of the logistics of field based ecological studies in a tropical setting.

Weeks 4&5 - Cultural Systems

The week long Aboriginal camping trip provides the backdrop for our analysis of socio-cultural settings and investigation of Aboriginal and western views of the environment, conservation, and the role of human beings in natural systems. Students continue their investigations into human behaviors and cultural systems on return to Cairns.

Weeks 6 & 7 - Terrestrial Systems

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On a ten day field trip entitled “Wet Tropics Bioregion: A Landscape Ecology Perspective” students visit a variety of sites in the Wet Tropics bioregion in order to develop skills related to understanding why certain plant and animal communities are found at sites, and how human land use impacts native ecosystems in the region.

Weeks 7 & 8 – Coral Reef Systems

On a ten day field trip entitled “Coral Reefs: Patterns and Processes” students investigate coral reefs from a variety of perspectives ranging from individual fish behaviour and intra-specific interactions, to the biophysical parameters which determine the distribution, structure, composition, and conservation prospects of coral reef communities.

Week 9 - Synthesis of Seminar

In preparation for Independent Study Project field work, a review of work in the seminar is undertaken.

FURTHER ON POLICIES

A detailed schedule of lectures and excursions is handed out weekly. Students are expected to attend and participate in all class sessions. Specific information on assignment structure and expectations is handed out during orientation. Information regarding policies on academic integrity, ethics, academic probation, diversity and disability, sexual harassment, and the academic appeals process is available in the Student Handbook.

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