Ecology and Sustainable Development in Costa Rica

Universidad Nacional, Heredia, Costa Rica

Ecology and Sustainable Development in Costa Rica is an optional course that is offered to both students of the School of Environmental Sciences at the Universidad Nacional and students on the IFSA-Butler program. The course will be taught in Spanish language and promotes comprehensive training with international perspectives for analysis and discussion. The course devotes part of the time to the deepening of theoretical content and part to practical development with the completion of fieldtrips.

A significant percentage of Costa Rican territory is under some category of protection due to private reserves dedicated to ecotourism and research. The urgent challenge for society is to raise awareness and conserve these natural resources in the long-term. The course will address the country's ecological history and the interaction of ecosystem components with the environment. This requires an approach to ecology as interdisciplinary science so that students may understand its importance in the recovery, preservation and protection of the environment.

This course allows students to use the concepts and skills that were developed throughout the course and put them into practice. Students are organized according to their interests, although they will all follow the same standards established in this syllabus.

General Objective:
To familiarize students with the tropical ecosystems, their importance, functionality and interrelationship with sustainable development in Costa Rica and the global society.

Specific Objectives

- To contribute to the understanding of the ecological principles that govern tropical ecosystems.
- To expand the domain of the theoretical foundations of ecology as a science aimed at the conservation and sustainable use of natural resources in Costa Rica.
- To familiarize student with the political and environmental socio-economic conditions of Costa Rica and how these conditions promote or prevent the sustainable use of the ecosystem's services and goods.

Methodology
The instructor will facilitate the learning process, encouraging students to be active members in the different activities. Through the proposal of creative strategies, the instructor will promote moments of reflection, analysis, criticism and reasoning for the construction of meaningful learning. The student must actively participate in both investigation and analysis.

Evaluation:

Activity	Assignment
Reading analyses	10%
Group work in classroom	10%
Examination I	15%
Examination II	15%
Reports of fieldtrips	20%
Research report	20%
Attendance and participation	10%

Reading analyses: Readings will be evaluated with quizzes, discussions in class or any other means determined by the instructor. This involves reading materials for each session to be able to ask questions and participate in intelligent discussions on the key issues.
Group classroom work: instructors can implement group assignments in class as appropriate. All students must be prepared for each session and participate actively. Your contribution will take into account not only the amount of time you speak, but the level of analysis.
Examinations: There will be two short examinations on the topics covered in the lectures, readings and field experiences. Each test is worth 15% for a total score of 30%. Corrections that are requested regarding the qualification of these examinations should be written within 24 hours from when the exams are returned. Corrections requested after this time would not be taken into consideration.
Reports of fieldtrips: According to the instructions, students will present a report for each fieldtrip. Each student must participate in scheduled fieldtrips and submit a single report (**printed, two-page maximum**) the following week. The report should summarize the experience and what was learned during the experience. Hand-written reports and reports submitted after the due date will not be accepted.
Research report: At the end of the semester, students will work in pairs to deliver a written report and present it orally. The assignment will be evaluated based on both the written report and presentation of the report.
Attendance and participation: fieldtrips and class attendance are mandatory. After two unexcused absences in class or one unjustified fieldtrip absence, students will fail the course. In terms of participation, all students should come prepared for each session.

Schedule of fieldtrips *

Location	Purpose	Date
Cerro de la Muerte	Introduction to the concepts of ecosystem.	2 days: Friday and Saturday of week 3
Sarapiquí	Learn and understand the dynamics of tropical ecosystems	2 days: Friday and Saturday of the week 6
Guayabo National Monument	Know a protected areas, their relationship with culture, tourism, and neighboring communities	1 day: Saturday of week 13
InBio	Environmental services provided by the forest/environmental education	Saturday of the week 15

** For reasons beyond control, fieldtrips may be rescheduled to another date or the same date to another location*

Class Schedule

Week	Theme	Chapter	Activities	Support materials
1	Presentation: program Introduction to concepts of ecosystem	I	Presentation of program Presentation of professor Lecture and discussion	Program of course Class notes
2	Ecological interactions and relations	I	Lecture Discussion	Class notes Multimedia
3	Ecology and ecological interactions	I	Lecture and discussion Fieldtrip (following Friday and Saturday)	Class notes Guide for fieldtrip report
4	Tropical ecosystems abiotic components	II	Lecture	Class notes Reading
5	Tropical biomes; Influence of climate change	II	Analysis of reading	Reading
6	Tropical ecosystems	II	Lecture and discussion Fieldtrip (following Friday and Saturday)	Class notes Guide for fieldtrip report
7	Ecological resources in Costa Rica	III	Lecture and discussion	Class notes Multimedia
8	Examination I			
9	Globalization and socio-economic transition from Costa Rica.	IV	Professor Presentation Lecture and discussion Analysis of reading	Class notes Reading
10	Social, economic, and environmental challenges currently	IV	Case study: socio-economics of climate change	Multimedia Case study
11	Protected areas management categories The national system of conservation areas: concept and organization	V	Presentation of the Professor Lecture and discussion Group work	Class notes Multimedia Working Group guidelines
12	Private booking system	V	Lecture and discussion	Class notes Multimedia
13	Social participation in the management of protected areas: local experiences	V	Lecture and discussion field trip	Class notes Guide for fieldtrip report
14	Relationship of the human being and the ecosystem: uses and threats	VI	Lecture and discussion Video and group work	Class notes Video Group guidelines
15	System of payment for environmental services: case studies	VI	Special guest Discussion Field trip	Multimedia Guide for fieldtrip report
16	Examination II			
17	Final report		Students present final report	