

From Córdoba to Patagonia

Biodiversity and ecosystems in central and southern
Argentina

Course Description

This intensive course provides training in environmental care and protection in two key Argentine regions: Córdoba Province, renowned for its numerous nature reserves, and Patagonia, known for its one-of-a-kind geological formations.

The academic format of this course goes beyond theory to hands-on experiential learning in the field. Classes will be taught by instructors from the Universidad Nacional de Córdoba, noted for its work in this area, and by wildlife rangers and specialists in academic tourism.

In addition to theoretical-practical classes, the course includes visits to nature reserves (starting the first week), camping excursions to national parks of Córdoba and a trip to the coastal region of Patagonia.

As a part of biodiversity and ecosystem training, students may participate in certain environmental response tasks vital to the protected areas in which the teaching-learning process will take place.

The course will be taught in English, but linguistic immersion and technical-scientific vocabulary will be in Argentine Spanish.

Those wishing to learn the language may enroll in an introductory Spanish course.

General Objectives

At the conclusion of the course, students should have achieved the following:

- A holistic comprehension of nature incorporating geographical, climatic, ecological and human perspectives
- Knowledge of Argentine ecosystems (especially those present in the central and southern regions), concern for their unique problems and involvement in current efforts to resolve these problems

- A greater ecological consciousness and possession of the conceptual and practical tools necessary to understanding the importance of preserving and treating areas threatened by human activity
- Ability to transfer this knowledge to everyday life, becoming part of the solution
- Capacitation to participate in environmental management and conservation projects in protected areas

Student Profile

Undergraduate students with an interest in the complexities of environmental care and protection.

Course Content

Unit 1

Ecoregions of South America (then and now). From the mountains to the Amazon. What is biodiversity? Levels of ecological organization. Diversity in different Argentine ecosystems. Exercises interpreting nature. Work on general knowledge of different aspects through the use of maps. Review of readings, news and literature related to ecoregions (for example: deforestation, forest fires, agricultural expansion, etc.)

Unit 2

Protected natural areas. Categorization of natural areas. Laws. Management. Sistema Nacional de Áreas Protegidas. Environmental issues in Argentina and Córdoba. Concept of environment as the HUMANITY - NATURE relationship. Exploitation of natural resources throughout history. Public environmental policies. Exploratory reading of information about protected areas of Argentina available on official sites with a special emphasis on the central and southern regions.

Content to Be Taught in Protected Areas

Visit to Parque Nacional Quebrada del Condorito (PNQC)

Duration: 1 day (*)

Departure from Córdoba for PNQC. Visit to the wildlife paths in the vicinity of the visitor center. Path leading to Quebrada del Río Condorito. Condor watching. Observation of the river. Observation of the Bosque de Tabaquillos. Return to the visitor center and departure for Córdoba.

Educational content: Biogeography and biodiversity in Sierras Grandes de Córdoba. Drainage basins and the importance of their conservation. History of PNQC and management of a protected natural area.

Visit to Los Gigantes - Valle de Los Lisos Nature Reserve

Duration: 2 days (*)

Day 1: Departure from Córdoba for Parador Casas Nuevas. Visit to Quebrada de los Refugios reforestation site. Observation of restored Bosque de Tabaquillos in its biodiversity. Return to Parador for the night.

Day 2: Ecological restoration training: exotic species control, planting. Visit to la Candelaria station.

Educational content: Historical and current occupation of Sierras Grandes de Córdoba. Grazing and soil erosion. Biological invasions: Invasive woody plants and trout. Reforestation projects in

Unit 3

Museo Paleontológico Egidio Feruglio: fossil collection, laboratory observation. The importance of paleontology as a discipline in understanding Patagonia's biodiversity. AQUAVIDA visitor center. Field work, coastal biodiversity, impact of fishing activities on the region, main challenges in the area of conservation. Intertidal exploration. Puerto de Rawson: *Tonina overa* watching.

Unit 4

Exploration of flora and fauna of the protected natural area and world heritage in the Valdés Peninsula. Land, coastal and marine ecosystems. Landscape, natural and cultural heritage. Knowledge and value of nature reserves.

Content to Be Taught in Excursions

Visit to Playa Unión – Puerto Rawson. (*)

Impact of fishing activity on the region: sample collection of coastal fish, driftnet fishing and trawl fishing. The Port: context and importance of population monitoring, biodiversity conservation. Participation in experimental designs in environmental preservation and reparation (for fishing and sample collection).

Intertidal system and Playa Magaña system. (*)

Exploration of flora and fauna of the area, sample collection of invertebrates. *Tonina overa* watching excursion. Visit the Puerto de Rawson fishing plant, main economic activity with a key impact on the coastal region.

Visit to Reserva Natural Punta Tombo and Laguna Chiquichano. (*)

Exploration of the greatest continental colony of Magellan penguins. Discovering the diversity of marine and steppe fauna and flora. The lagoon as an ecosystem and the functioning of pluvial lakes, bird diversity, more than 80 species (depending on the time of year). Learning about upland geese: distribution, forms of study, etc.

Visit to the protected natural area and World Heritage Site on Valdés Peninsula. (*)

Route covering the entire length of the peninsula, more than 800,000 hectares of Patagonian steppe. Monte de Llanuras and Mesetas. Visit to the sea lion and elephant seal reserve and visitor center. Overnight stay at Puerto Pirámides, landscape, natural and cultural heritage site. Educational and recreational activities.

(*) For reasons beyond our control (such as weather emergencies), dates and itineraries may be subject to modification.

Assignments and Evaluation

Before beginning the evaluations, students may select the format best suited to conveying the knowledge they have acquired. The encouraged formats are:

- Written essay. Length: 2,000-3,000 words. Language: English. The student must respond to four key questions provided by the instructor at the start of the course.

- Audiovisual Production. Length: 4 to 10 minutes. Language: English. The student must narrate in voiceover and with images a summary of the various biomes studied. This audiovisual content should be uploaded to an ad hoc YouTube channel created for the purposes of the assignment (possible formats include podcast, short videos, etc.)
- A travel journal in which the student records his or her daily experiences related to the environment.

Assessment will be an ongoing process. Out of 100 possible points, students must earn at least 60 to pass the course. The course grade includes three components:

- Attendance (both in theoretical-practical classes and field learning activities): 80% attendance = 20 points
- First evaluation = 40 points
- Second evaluation = 40 points

Topic of the first evaluation: ecosystems of Córdoba Province. Deadline: February 10th.

Topic of the second evaluation: ecosystems of Patagonia. Deadline: February 25th.

Program Staff

- Two instructors to teach classroom content and lead visits to the city of Córdoba and protected areas of the province of Córdoba
- Teaching staff and specialists on the Patagonia field experience.
- Wildlife rangers in protected areas
- Administrative staff.