



Course: Sustainability and Social Ecological Systems in Galapagos



July 21st, 2025



Blended



Theoretical part: 2.5 hours daily for 2 weeks (Mo-Th) from 09h00 to 11h30 and Practice in situ: 9 days in Galapagos plus cultural experience in Quito.



\$ 3,700

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The environmental and social crises are intrinsically linked, forming a single, complex crisis that must be addressed comprehensively with a commitment to caring for our Common Home. This is particularly urgent in light of the prevailing overexploitation of natural resources and development models driven by an anthropocentric vision. Addressing this challenge requires a holistic understanding of reality, where ecological, economic, social, and cultural dimensions are deeply interconnected. To achieve this, the traditional division between the natural and social sciences must be bridged.

In this context, and recognizing the need to integrate the ecological dimension while promoting interdisciplinary dialogue, we have adopted the concept of socio-ecological systems. This approach examines the dynamic relationship between nature and society, emphasizing the impact of human activities on ecosystems, the services they provide, and human well-being. By doing so, we acknowledge the fundamental interdependence between ecosystems and social systems.

Aim:

Experience firsthand the socio-ecological challenges linked to the analysis of natural and social ecosystems in the living laboratory of the Galápagos Islands. This experience in this microcosm will encourage students to reflect on a sustainability model from different perspectives.

Who is it addressed to?

Undergraduate (3rd or 4th year) and graduate foreign students in biology, environmental science, sustainability, and related disciplines, as well as social science students with an interest in the topic.

Benefits

After the 78 hours of classes you will be able to:

Describe the main ecological and social elements of the Galapagos Archipelago.

Propose sustainable solutions to the socioecological challenges of Galapagos.

Methodology:

The course will be taught in English and will have a hybrid format. In the virtual modules, different teaching and learning methodologies will be used in accordance with the content and learning outcomes established in the course. The methodologies that will be implemented in the virtual modality include flipped classrooms, problem-based learning, as well as keynote talks by the instructors. On the other hand, in the face-to-face modality, the methodology that will be used is project-based learning, along with collaborative and interdisciplinary work.

Modules:

1

Galapagos ecological systems

- Concept of socio-ecological systems
- Galapagos terrestrial ecosystems
- Galapagos marine ecosystems
- Most striking taxonomic groups (Reptiles)



Modules:

Galapagos social systems

- Holistic perspective of interdisciplinary science
- Sustainability studies for conservation
- Gender in Galapagos
- Economic perspective of natural resources

In-person practical work. Project based learning

- Project-based learning:
 - Invasive Species Tourism
 - Marine ecosystems
 - Urban areas
 - Fisheries

Detailed schedule Galapagos Experience

- Days 1 to 2: Arrival in Quito. Welcome to PUCE, cultural and academic immersion.
- Day 3: Departure from Quito and arrival in the Galápagos Islands.
- Day 4: Introduced Species 1. Visit the upper part of the farms with giant tortoises and Los Gemelos area to observe the blackberry invasion. Group reflection on the day's activities and collaborative project work.
- Day 5: Introduced Species 2. collaborative project work.-part two. Search for information on introduced species. Visit agroforestry farms and ponds with invasive frogs in the agricultural area.
- Day 6: Tourism and Marine Ecosystems 1. Walk to Tortuga Bay and return by boat. Group reflection on the day's activities and collaborative project work.
- Day 7: Tourism and Marine Ecosystems 2. Visit nearby beaches: Grietas, La Estación, and La Ratonera. Group reflection on the day's activities and collaborative project work.
- Day 8: Marine and Terrestrial Ecosystems. Daily tour to a nearby island (Pinzón, Santa Fe, or Seymour).
- Day 9: City and Urban Dynamics. Turtle route and talk by the director of the Charles Darwin Scientific Station.
- Day 10: Fisheries. Group reflection on the day's activities and collaborative project work.
- Day 11: Presentation of final projects.
- Day 12: Return to Quito.
- Day 13: Cultural activity in Quito.
- Day 14: Return to country of origin.



- Schedule: Theoretical part: 2.5 hours dailyfor 2 weeks (Mo-Th) from 09h00 to 11h30.
 - Practice in situ: 9 days in Galapagos plus cultural experience in Quito.



"The schedule may be subject to change, depending on the circumstances"



Instructors:



Andrea Muñoz Barriga

She is the Principal Investigator in Sustainability Studies for Conservation at the Charles Darwin Foundation, a researcher, and a professor at PUCE. She holds a Bachelor's in Biological Sciences (PUCE), a Master of Science (University of Göttingen), and a Ph.D. in Natural Sciences (University of Greifswald). Her interdisciplinary background bridges social and natural sciences. Previously in the Faculty of Human Sciences, she is now part of the Faculty of Exact and Natural Sciences at PUCF.



Verónica Crespo Pérez

Expert in aquatic ecosystems. She is a professor and researcher at the School of Biology in the Faculty of Exact and Natural Sciences, where she teaches subjects such as ecology. She holds a Bachelor's in Biological Sciences, a Master's in Life Sciences from the Université François Rabelais de Tours, and a Ph.D. from the University of Paris. She is currently an associate researcher at the Charles Darwin Foundation.



Miguel Pinto Báez

Curator of the Natural History Collections at the Charles Darwin Foundation. He is a biologist with research interests in the richness, evolution, and biogeography of the biodiversity of the Galápagos Islands. Additionally, he has worked extensively on systematic and evolutionary studies of mammals and parasites of the genus Trypanosoma. He completed his bachelor's degree at PUCE, his master's degree at Texas Tech University, and his doctorate at the City University of New York with a scholarship from the American Museum of Natural History.



Ma. José Barragán Paladines

BSc in Biological Sciences from PUCE and a Ph.D. from Memorial University of Newfoundland. Her interdisciplinary training has allowed her to develop a holistic vision of the need to connect science with society's needs.



Carolina Páez Vacas

Anthropologist from PUCE, where she has been a professor-researcher for the last 15 years. With expertise in gender and development, she is currently a Senior Researcher in Social Sciences and Fisheries in the interdisciplinary Fisheries project at the Charles Darwin Foundation.



Nicolás Moity

A Senior Marine Ecologist and Geospatial Expert at the Charles Darwin Foundation, he works with the Sustainable Fisheries team and leads projects on "Mangrove Ecology and Climate Change" and "Sustainable Marine Tourism to Enhance Marine Ecosystem Resilience." His research examines how global change affects Galapagos marine ecosystems and their role in climate mitigation. He holds a BSc in Biology, a MSc in Biodiversity from the University of Alicante, and a MSc in Geographic Information Systems from Ulster University. He is currently pursuing a PhD in Marine Biology at the University of New Hampshire.

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