

## REC 0316 Strategic Planning for Natural Resource Management

### **Course description:**

The conservation and management of natural resources, and the search for solutions to the many environmental problems that our societies are facing are constantly limited by three main factors: i) the short time-frame in which solutions need to be designed and implemented; ii) the scarcity of information which frequently adds uncertainty to the analysis and management of environmental or conservation problems, and, iii) the lack of proper funding. A common outcome of the interaction between these factors is ineffective conservation action, disappointment among key players, and the lack of a proper analysis framework to monitor and improve management interventions. In this context, during this course we will learn about the use of strategic thinking tools for the management of biodiversity and other natural resources. More specifically, we will discuss the use of conceptual models and monitoring systems as the basis for the adaptive management of conservation/development projects. Additionally, we will review the process of advancing from the construction of a conceptual model, to the writing a project proposal.

This is a hands-on course in which students will gather first hand information about selected environmental problems in the Galápagos Islands and use it to construct conceptual models and design strategies or alternatives that could be turned into projects for the efficient management of those problems.

**General objective:** The main objective of this course is to introduce students into the efficient use of conceptual models and monitoring systems for the analysis of environmental problems and the design and implementation of strategies or projects aimed at solving those problems.

### **Specific objectives:**

- 1.- Development of conceptual models
- 2.- Development of monitoring frameworks for adaptive management
- 3.- Development of project proposals based on conceptual models

### **Knowledge:**

- Students will learn about the construction and usefulness of conceptual models conceived as tools for strategic thinking in environmental sciences.
- Students will understand the concept of adaptive management and the use of monitoring frameworks from project management.
- Students will understand the most important aspects about the writing of project proposals.

### **Skills:**

- Students will be able to use conceptual models as a tool for the analysis of environmental/conservation problems.
- Students will be able to construct frameworks for the monitoring and adaptive

management of environmental/conservation projects.

- Students will be able produce a draft project proposal based on a conceptual model.

**Attitudes:**

- Students will be encouraged to critically think about the environmental problems in Galápagos and use their **creativity** and **knowledge** about conceptual models to think about management strategies.

- A useful conceptual model is usually based on solid information. In order to improve their models, students will be encouraged to interview key players and gather first hand information in a short period of time. A proactive and enthusiast attitude will be critical in terms of helping students in acquiring sufficient information of relevance for their projects.

**Course content:**

- Introduction to conceptual models for the analysis of environmental/conservation problems.
- The use of monitoring frameworks for adaptive management.
- Principles for the writing of successful project proposals