

25225 - Management and conservation of flora and fauna

Información del Plan Docente

Academic Year	2016/17
Academic center	201 - Escuela Politécnica Superior
Degree	277 - Degree in Environmental Sciences
ECTS	6.0
Course	3
Period	Second Four-month period
Subject Type	Compulsory
Module	---

1. Basic info

1.1. Recommendations to take this course

This subject is offered in the [English Friendly](#) form

1.2. Activities and key dates for the course

2. Initiation

2.1. Learning outcomes that define the subject

2.2. Introduction

3. Context and competences

3.1. Goals

3.2. Context and meaning of the subject in the degree

3.3. Competences

3.4. Importance of learning outcomes

4. Evaluation

5. Activities and resources

5.1. General methodological presentation

Theory classes:

Theory sessions consist of participatory lectures. Teacher will explain concepts promoting students participation and interest by the subject.

Practice classes:

Practice sessions will have two formats:

1) Fieldwork in natural areas with management or recovery programs of endangered species. As also flora and fauna

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conservation centers. 1 to 2 field trips. The aim of these practices is to conduct an in situ examination of the conservational problems of endangered species, to know and discuss management strategies with those responsible for those actions and to develop critical thinking.

2) Class practical sessions where basic knowledge and principles of practical conservation will be given to complement the field trips. Also a brief endangerment species seminar will be given by students.

5.2.Learning activities

Theory.

30 lectures (50 minutes each) according the EPS calendar.

Practices.

Fieldwork in natural areas with management programs of endangered species, or centers of flora and fauna conservation programs. 1 to 2 field trips with a duration of 10-20 hours (depending on the number of field trips).

Classroom practices and writing and exposition of a short seminar by students in the framework of the objectives of the course (to complete 30 hours of practice).

5.3.Program

Theory Program

A) INTRODUCTION AND GENERAL CONCEPTS

- . Wildlife conservation. Interests and action framework. Conservation biology: empirical context and the methods it entails.
- . The basics of biodiversity. Levels of complexity. Brief look at its geographic guidelines. Basics of biogeography.
- . Historic look of the extinction of species. Colonization. Present causes of extinction and rarefaction, dynamics and pace and of species.
- . The dynamics of small populations. Genetic characterization. Population genetics. Genetic drift. Hybridization. Metapopulations. The minimum viable population possible.
- . The practice of conservation. Spatial conservation in comparison with wildlife conservation. In situ and ex situ conservation. International, Spanish and autonomous regional legislative framework. The ICUN Red List. Plans of action for the recuperation species.

B) PLANT CONSERVATION AND MANGEMENT

- . Brief history of plant conservation. European regulations. The Red List and the Atlas of Spanish threatened flora. The decentralization of management: competition and initiatives of Autonomic Regions.
- . Conservation of flora in Spain. Evaluating its state and threats. Case studies: micro-reserves in Valencia, Sierra Nevada, and threatened flora in the Balearic and Canary Islands.

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. Flora conservation in Aragon: Catalogue of threatened plants. Evaluation of their state and plans of protection and recuperation. Case studies: Pyrenean endemisms, plants of the steppes/grasslands.

C) FAUNA MANAGEMENT AND CONSERVATION

. Specific diversity of different groups. History of wildlife conservation in Spain.

. Issues in the conservation of invertebrates. Invertebrates threat factors .

. Analysis of the list of threatened Spanish invertebrates. Diversity and conservation.

. Issues in the conservation of vertebrates. Specific threat factors. Legislation on vertebrates.

. Examples and cases of conservation and management of the main groups of vertebrates: Amphibians, Reptiles, Birds and Mammals.

Practices Program

Practice 0. ¿what is a threatened species seminar?

Practice 1. Wildlife sampling methods.

Practice 2. Population size estimation.

Practice 3. Spatial distribution.

Practice 4. Biodiversity characterization.

Practices 5-8. Seminars.

Field Practice 9. Botanic inventory.

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Field Practice 10. Abiego-Ainsa-Revilla.

Field Practice 11. Reserva Natural Dirigida Galachos y Sotos del Ebro

Seminar:

The student or group of students will select a species of flora or fauna that is in some category of threat in the Iberian Peninsula and the work (report and defense) will be made up of at least the following parts:

- * Systematic position (Kingdom/Division-Phylum/Class/Order/Family/Genus/Species)
- * Synonyms
- * Intraspecific taxa
- * Number of species of the genus in the world
- * Number of species of the genus in the Iberian Peninsula and the Balearic Islands
- * Number of species of the genus in Aragon
- * Number of genera of the family in the world
- * Number of genera of the family in the Iberian Peninsula and the Balearic Islands
- * Number of genera of the family in Aragon
- * Morphological description of the species
- * Area of distribution in the world, provinces of Spain and Aragon
- * Number of populations and individuals
- * Reproductive biology
- * Habitat

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- * Cataloguing of conservation status in the General Council of Aragon and the Government of Spain
- * IUCN Category in Spain. Specify points
- * Threat factors
- * Existing types of measures for protection/management/recovery (specific plans and protected spaces included in that) and appropriate proposals. Legislation of the General Council of Aragon (BOA, Official Aragon Bulletin).

5.4.Planning and scheduling

Classes, tutorials and examinations will follow the academic calendar of the University of Zaragoza and the Escuela Politecnica Superior (EPS).

All information of the subject will be presented on the first day of class each year, and upload to the ADD.

Teacher's material, issues related to the subject, practice guides and other information relevant for the lecture will be published in ADD.

5.5.Bibliography and recommended resources

BB	Atlas y libro rojo de la flora vascular amenazada de España : taxones prioritarios / [editores y coordinación científica del proyecto, Ángel Bañares Baudet ... (et al.)] . Madrid : Tragsa : Ministerio de Medio Ambiente, 2003
BB	Especies exóticas invasoras : diagnóstico y bases para la prevención y el manejo / autores, Laura Capdevila Argüelles ... [et al.] . Madrid : Organismo Autónomo Parques Nacionales, D.L. 2006
BB	La diversidad biológica de España / coordinadores- editores, F.D. Pineda [et al.] . Madrid : Prentice Hall, D.L. 2002
BB	Primack, Richard B.. Essentials of conservation biology / Richard B. Primack . 6th ed. Sunderland (Massachusetts) : Sinauer Associates, cop. 2014
BB	Primack, Richard B.. Introducción a la biología de la conservación / Richard B. Primack y Joandomènec Ros . Barcelona : Ariel, D.L. 2002
BC	Atlas de las aves reproductoras de España / realizado por la Sociedad Española de Ornitología (SEO-Birdlife) ; editores Ramón Martí y Juan Carlos del Moral. . - 1ª reimpr. Madrid : Organismo Autónomo de Parques Nacionales, 2004
BC	Atlas de las plantas alóctonas invasoras en España / [editores y coordinación científica del proyecto] Mario Sanz Elorza,

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R. Márquez, M. Lizana ; coordinador del
atlas, V. Pérez Mellado ; coordinadores del
libro rojo, R. Márquez y M. Lizana] . Madrid
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vegetales protegidas en España : plantas
vasculares (Península Ibérica y Baleares)
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López Martínez, Tomás Rodríguez Riaño.
Madrid : Ministerio de Medio Ambiente,
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el uso sostenible de la diversidad biológica
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"Directiva Hábitat" en España / Eduardo
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| BC | Libro de la flora vascular rara, endémica o amenazada de la Comunidad Valenciana / Antoni Aguilera Palasí ... [et al.] ; dirección y coordinación Emilio Laguna Lumbreras. València : Direcció General de Conservació del Medi Natural, 1994 |
| BC | Libro rojo de las aves de España / [realizado por la Sociedad Española de Ornitología (SEO/Birdlife) ; Alberto Madroño, Cristina González y Juan Carlos Atienza (editores) . - 1ª ed. Madrid Organismo Autónomo Parques Nacionales, D. L. 200 |
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| BC | Libro rojo de los vertebrados de España / Juan Carlos Blanco y José Luis González, editores . Madrid : ICONA, D.L. 1992 |
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Education

BC

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