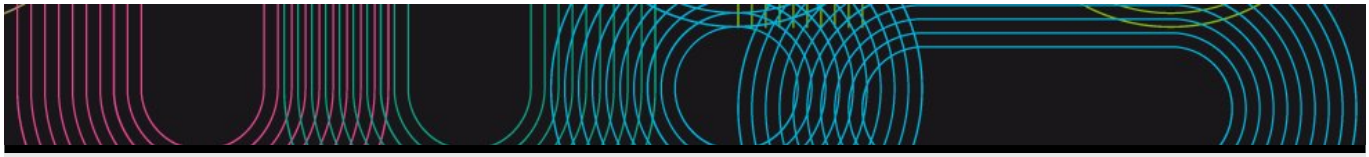

IDENTIFYING DATA				
Management of protected areas and biodiversity				
Subject	Management of protected areas and biodiversity			
Code	P03G370V01801			
Study programme	(*)Grao en Enxeñaría Forestal			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	4th	2nd
Teaching language				
Department				
Coordinator	Cordero Rivera, Adolfo			
Lecturers	Cordero Rivera, Adolfo Rivas Torres, Anais			
E-mail	adolfo.cordero@uvigo.es			
Web	http://ecoevo.uvigo.es			
General description	(*)Introdución aos principios da Bioloxía da Conservación aplicados á Xestión de Espazos protexidos e Conservación da Biodiversidade			

Competencies	
Code	
B1	CG-01: Capacidade para comprender os seguintes fundamentos necesarios para o desenvolvemento da actividade profesional: Biolóxicos.
B2	CG-02: Capacidade para comprender os seguintes fundamentos necesarios para o desenvolvemento da actividade profesional: Físicos.
B6	CG-06: Capacidade para identificar os diferentes elementos: elementos bióticos.
B7	CG-07: Capacidade para identificar os diferentes elementos: elementos físicos.
B8	CG-08: Capacidade para identificar os diferentes elementos: recursos naturais renovables susceptibles de protección, conservación e aproveitamento.
B9	CG-09: Capacidade para analizar a estrutura e función ecolóxica dos sistemas e recursos forestais, incluíndo as paisaxes.
B16	CG-16: Capacidade para o uso das técnicas de conservación da biodiversidade.
B24	CG-24: Capacidade para resolver os problemas técnicos derivados da xestión dos espazos naturais.
C12	(*)CE-12: Capacidade para coñecer, comprender e utilizar os principios de: ecoloxía forestal
C36	(*)CE-36: Capacidade para resolver problemas técnicos derivados da xestión de espazos naturais. Conservación da biodiversidade.
D1	(*)CBI 1: Capacidade de análise e síntese.
D2	(*)CBI 2: Capacidade de organización e planificación.
D5	(*)CBI 5: Capacidade de xestión da información.
D7	(*)CBI 7: Adquirir capacidade na toma de decisións.
D11	(*)CBP 4: Habilidades de razoamento crítico.
D15	(*)CBS 3: Creatividade.
D20	(*)CBS 8: Sensibilidade cara a temas ambientais.

Learning outcomes	
Expected results from this subject	Training and Learning Results

(*)	B1	C12	D1
	B2	C36	D2
	B6		D5
	B7		D7
	B8		D11
	B9		D15
	B16		D20
	B24		

New

Contents	
Topic	
1. The science of conservation.	The origins and brief history of conservationist movements. Principles of conservation biology. Ecology and Environment. Importance of science in conservation.
2. Present the ecological values and functions of biodiversity.	Genetic diversity, and by ecosystem: the concept of biodiversity. Why should you keep the species? The intrinsic value of the species and their conservation status. The instrumental values and rarity of the species. The values of ecosystems.
3. Biodiversity and stability.	The concept of stability. The diversity-stability debate (a history of controversy, current studies, compartmentalization, diversity and global change, implications for conservation biology). Recoil.
4. Ecological principles in the exploitation of natural resources.	Optimum performance concept. Principles for the exploitation of resources. Genetic changes in exploited populations. The exploitation of forests. Forest certification (FSC, PEFC).
5. Extinction	Number of species that inhabit the planet. The causes of the rarity of the species. IUCN classification. Estimation of extinction rate. Processes and causes of extinction. Degradation and destruction of habitats. Metapoboacional dynamic. Analysis of viability of populations (PVA).
6. Management of species and populations.	Addresses of the units. In situ and ex situ conservation. Scarcity of resources. Control of threats. Transfers and artificial breeding. Role of zoos, botanical gardens and museums. Importance of ethology in conservation. Case study: the example of the black ferret pin.
7. E-mail management and restoration of ecosystems	. Principles of ecosystem management. Modified ecosystems (logging, agricultural ecosystems, aquatic ecosystems). Restoration of ecosystems.
8. Social factors in conservation.	Description of the values. Qualification priorities. Cultural changes. Environmental education. Galician strategy of environmental education.
9. The economics of conservation.	Economic valuation of biodiversity (types of sustainability, decision models in the ecological economy, the value of biodiversity). Cost of maintenance (method of cost of the trips, the method of revealed preferences, an economic and ecological perspective of market). The tragedy of communal property.
10. Political action and conservation.	International organizations (IUCN MAB program). Government agencies: The Spanish strategy for sustainable development. Spanish strategy for the conservation of biodiversity. Non-governmental organizations (NGOs). Companies and individuals. Scientific research, policy and conservation. Ecologism as a political ideology.
11. Reserves and protected parks.	Objectives of the creation of reserves (the problem of fragmentation). Representation of biodiversity. The main features of design reservations: size, dynamic context, spatial, connectivity, buffer zones. Protected natural areas of Galicia.
12. Conservation legislation	Biodiversity Agreements (Berne, Ramsar, Washington (CITES), Bonn Biodiversity (Rio de Janeiro) European legislation (Birds Directive, Habitats Directive) State legislation (Law 42/2007 on Natural Heritage, Decree 139 / 2011 catalog species in danger Decree 1628/2011 Catalog of invasive species) Legislation of Galicia: .. of Galician law of conservation of nature.
13. Management plans for endangered species.	Guidelines, objectives and feasibility. Examples: the management plan for the European turtle (Emys orbicularis) in Galicia; Plan of control of liberal populations (Odonata) of European interest; Reproductive biology and Camariña management (Corema album) in the Cíes Islands.
Practice 1. Design of Reservations: Testing the species-area relationship.	(*)
Practice 2. Taxonomic principles and characteristics of communities. Its use in the decision-making process on conservation.	(*)
Practice 3. Contingent assessment: Survey on social attitudes against conservation.	(*)

Practice 4. Analysis of the viability of populations using the vortex program.	(*)
Practice 5. Field output. Visit to the Center of Zooxenética Resources of Galicia.	Study of two systems of conservation of xermoplasma of autochthonous cattle breeds.
Practice 6. Field Output. Visit to the Natural Park of Fragas do Eume.	Contact with the actual treatment of the protease area, with its specific characteristics and problems.
Practice 7. Field output. Visit to the National Park of the Atlantic Islands of Galicia.	Given the peculiarities of the Park, with its insularity, the visit will be to the reception center of visitors in Vigo, if the climatic and climatic conditions so advise.

Planning

	Class hours	Hours outside the classroom	Total hours
Master Session	30	52.5	82.5
Outdoor study / field practices	11	16.5	27.5
Classroom work	5	10	15
Practice in computer rooms	4	4	8
Short answer tests	2	0	2
Jobs and projects	5	10	15

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Master Session	Presentation by the professor of the most important concepts of the subject
Outdoor study / field practices	Understanding key concepts through study outings.
Classroom work	work and exposure practical classroom analysis methodologies.
Practice in computer rooms	study key concepts through computer simulations.

Personalized attention

Tests	Description
Jobs and projects	A sand county almanac, Aldo Leopold. Monographic work on the book

Assessment

	Description	Qualification	Training and Learning Results		
Master Session	(*)Avaliarase mediante exames de resposta curta.	65	B1 B2 B6 B7 B8 B9 B16 B24	C12	D1 D11
Outdoor study / field practices	(*)Avaliaranse no exame da materia mediante preguntas específicas.	5	B6 B7 B8 B9 B16	C12	D1 D11
Classroom work	(*)Avaliaranse no exame da materia mediante preguntas específicas ou ben mediante traballos escritos.	10	B6 B7 B8 B9 B16 B24	C12 C36	D1 D11 D20
Practice in computer rooms	(*)Avaliaranse no exame da materia mediante preguntas específicas ou ben mediante traballos.	10	B6 B7 B8 B9 B16	C12	D1 D5 D11 D15 D20
Short answer tests	(*)Forman parte do exame escrito da materia	0			
Jobs and projects	(*)Entrega dun traballo monográfico sobre o libro "A sand county almanac", de Aldo Leopold. O traballo debe ser entregado un mes antes da data do exame.	10			

Other comments on the Evaluation

Sources of information

Basic Bibliography

Leopold, Aldo, **A sand county almanac (versión española: Una ética de la tierra)**, Oxford University Press, 1949

Complementary Bibliography

Primack, R.B. & J. Ros, **Introducción a la Biología de la Conservación**, Ariel, 2002

Cordero Rivera, A. (Editor), **Proxecto Galicia, Ecoloxía. Volumen 45. Conservación I.**, Hércules de Ediciones, 2005

Hunter, M.L., **Fundamentals of Conservation Biology**, Blackwell Science, 2002

Sutherland, W.J., **The Conservation Handbook: Research, Management and Policy**, Blackwell Science, 2000

Shafer, C. L., **Nature Reserves**, Smithsonian Institution Press, 1990

James P. Gibbs, Malcolm L. Hunter, Jr., Eleanor J. Sterling, **Problem-solving in conservation biology and wildlife management: exercises for class, field, and laboratory**, 2, Blackwell Science, 2008

Recommendations

Subjects that it is recommended to have taken before

Forestry Ecology/P03G370V01402