



## IDENTIFYING DATA

### Conservation and Natural Resource Management

Subject	Conservation and Natural Resource Management			
Code	V02M123V01206			
Study programme	(*)Máster Universitario en Ciencias Biológicas: Biología Molecular, Computacional e Ambiental e Bio-Industrias			
Descriptors	ECTS Credits	Type	Year	Quadmester
	6	Optional	1st	2nd
Language				
Department				
Coordinator	Caballero Rúa, Armando			
Lecturers	Caballero Rúa, Armando Rojas Martín, Danny Touza Montero, Julia María			
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Web	<a href="http://webs.uvigo.es/biologicalsciences/">http://webs.uvigo.es/biologicalsciences/</a>			
General description	The aims of the subject are: (1) to show the main principles applicable to the conservation of ecosystems and biological resources at different spatial scales, (2) to show the main tools available for the assessment of diversity and the management of populations in conservation programmes, and (3) to give an overview of the economic cost and benefits of conservation management.			

## Competencies

Type A	Code	Competences Specific
	A1	(*)To know the scientific method and the correct use of the scientific terminology as well as to acknowledge the contribution that scientific research provides to the overall knowledge and professional practice.
	A2	(*)Ability to describe and to analyse biological diversity, the mechanisms determining the interactions with the biotic and abiotic environment and being able to select those which might have technical applications.
	A3	(*)Ability to manage and/or to develop basic tools for validating and analysing data by means of statistics and bioinformatics.
	A4	(*)To know the ethical and legal aspects governing the collection and the handling of biological samples, organisms and habitats.
	A5	(*)Ability to design, evaluate and implement models of biological structures, systems and processes.
	A6	(*)To learn the sampling techniques and the instrumental methodologies, in the field and laboratory, for their application in the Biological Sciences
	A7	(*)To have an integrated view of the R&D processes and their possible transfer to the industrial sector. Planning and supervising facilities together with managing their human and economic resources.
	A8	(*)Ability to classify, evaluate, conserve, restore and manage natural and productive systems. Developing and implementing land management and sustainability plans.
	A9	(*)To understand and know how to apply quality control systems and safety protocols in any biological laboratory of the public or private sector.

A10 (\*)To acquire the professional ability to teach and spread Biology and to offer expertise advice for elaborating scientific, technical and socioeconomic biology reports. Address environmental consulting.

A11 (\*)To perform an individual Master Project (critical and in-depth study) under the supervision of a tutor in a research or working environment demonstrating that skills have been acquired.

#### Type B Code Competences Transversal

B1 (\*)Dissemination of results and conclusions of the biological studies, in oral and written English, through complex presentations that address ideas related with R&D in Biology.

B2 (\*)Managing computational, laboratory, field and industrial techniques in order to obtain, process and apply the acquired information.

B3 (\*)Disseminating and broadcasting ideas in contexts both academic and non-specialised.

B4 (\*)Reflecting on social and ethical responsibilities.

### Learning aims

Subject competences	Typology	Competences
To know the scientific method and the correct use of the scientific terminology as well as to acknowledge the contribution that scientific research provides to the overall knowledge and professional practice.	know Know How	A1
Ability to describe and to analyse biological diversity, the mechanisms determining the interactions with the biotic and abiotic environment and being able to select those which might have technical applications.	know Know How	A2
Ability to classify, evaluate, conserve, restore and manage natural and productive systems. Developing and implementing land management and sustainability plans.	know Know How	A8
To acquire the professional ability to teach and spread Biology and to offer expertise advice for elaborating scientific, technical and socioeconomic biology reports. Address environmental consulting.	know Know How	A10
Dissemination of results and conclusions of the biological studies, in oral and written English, through complex presentations that address ideas related with R&D in Biology.	know Know How	B1 B2 B3
Managing computational, laboratory, field and industrial techniques in order to obtain, process and apply the acquired information.		B4
Disseminating and broadcasting ideas in contexts both academic and non-specialised.		
Reflecting on social and ethical responsibilities.		

### Contents

#### Topic

(1) Conservation Biology: an overview.

(2) Habitat fragmentation and landscape change.

(3) Demography and extinction.

(4) Units of conservation and hybridization.

(5) Conservation planning and priorities.

(6) Conservation breeding.

(7) Overview of the challenge of conservation from an economic perspective.

(8) Cost-benefits and cost-effectiveness analysis for conservation management.

### Planning

	Personalized attention	Assessment	Ordinary class hours A	Face-to-face hours outside the classroom Guided academic environment B	Student's work factor C	Outside the classroom hours D	Total hours (A+B+D) E
Master Session	<input type="checkbox"/>	<input type="checkbox"/>	18	0	3.16667	57	75
Workshops	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7	0	9	63	70

Short answer tests	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	0	0	0	2
Reports / memories of practice	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	0	0	0	3
Total hours E:							150
Work load in UVIGO ECTS credits:							6

\*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	Individual lectures of about 2 hours will cover each of the 8 topics included in the subject contents.
Workshops	Practical work will be carried out through resolution of problems and questions, and computer applications on real data.

## Personalized attention

	Description
Workshops	Personalised help will be given to students during the workshops

## Assessment

	Description	Qualification
Short answer tests	Tests will be carried out to evaluate the understanding of the main principles of the subject	50
Reports / memories of practice	Reports of work carried out in the workshops will be evaluated	50

## Other comments and second call

## Sources of information

F.W. Allendorf, G. Luikart & S. Aitken (2013). Conservation and the Genetics of Populations. 2nd edition. Wiley-Blackwell.

N.S. Sodhi & P. R. Ehrlich (2010). Conservation Biology for All. Oxford University Press.

J. Shogren, N. Hanley & B. White (2001). Introduction to Environmental Economics. Oxford University Press.

## Recommendations

### Subjects that are recommended to be taken simultaneously

Global Change and Adaptation/V02M123V01205

Sustainable Development/V02M123V01207

### Subjects that it is recommended to have taken before

Biodiversity/V02M123V01108

Population Ecology and Ecosystem Complexity/V02M123V01109

Restoration and Environmental Policy/V02M123V01208