



## IDENTIFYING DATA

### Forest entomology and Zoology

Subject	Forest entomology and Zoology			
Code	P03G370V01305			
Study programme	(*)Grao en Enxeñaría Forestal			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	2nd	1st
Teaching language				
Department				
Coordinator	Paz Bermudez, Maria Graciela			
Lecturers	López de Silanes Vázquez, María Eugenia Paz Bermudez, Maria Graciela Souto Otero, José Carlos			
E-mail	graciela@uvigo.es			
Web	<a href="http://http://faitic.uvigo.es/index.php/es/">http://http://faitic.uvigo.es/index.php/es/</a>			
General description	(*)Esta materia ensina ó alumnado os fundamentos de zooloxía, con énfase nas especies máis comúns nos nosos bosques. Dada a gran importancia da entomoloxía no medio forestal, unha parte importante da materia adicarase a esta disciplina. Finalmente, outro bloque de temas centrarase en xenética, especialmente na de poboacións, co fin de que o alumno poida adquirir uns coñecementos fundamentais para comprende-la dinámica e a evolución das poboacións animais.			

## Skills

Code	
B1	Ability to understand the biological, chemical, physical, mathematical and representation systems necessary for the development of professional activity, as well as to identify the different biotic and physical elements of the forest environment and renewable natural resources susceptible to protection, conservation and exploitations in the forest area.
B3	Knowledge of degradation processes that affect forest systems and resources (pollution, pests and diseases, fires, etc.) and capacity for the use of forest environment protection techniques, forest hydrological restoration and biodiversity conservation .
C13	Ability to know, understand and use the principles of: forest zoology and entomology; biological foundations of the animal field in engineering.
D4	Sustainability and environmental commitment
D5	Capacity for information management, analysis and synthesis

## Learning outcomes

Expected results from this subject	Training and Learning Results
------------------------------------	-------------------------------

2R. 2018 Knowledge and understanding of the disciplines of engineering of the his speciality, to the necessary level to purchase the rest of the competitions of the qualifications, including notions of the last advances. B1 C13 D4

3R. 2018 Be conscious of the multidisciplinary context of the engineering. B3 D5

4R. 2018 Capacity to #analyze products, processes and complex systems in the his field of study; choose and apply analytical methods, of calculation and experimental \*relevantes of form \*relevante and interpret correctly the results of these analyses.

8R. 2018 Capacity to realize bibliographic researches, consult and use databases and other sources of information with discretion, to realize @simulación and analysis with the objective to realize investigations on technical subjects of the his speciality.

9R. 2018 Capacity to consult and apply codes of good practices and security of the his speciality.

10R. 2018 Capacity and capacity to project and realize experimental investigations, interpret results and obtain conclusions in the his field of study.

12R. 2018 practical Competition to resolve complex problems, realize complex projects of engineering and realize specific investigations stop his speciality.

13R. 2018 Knowledge of the application of materials, teams and tools, technological processes and of engineering and his limitations within the scope of the his speciality.

15R. 2018 Knowledge of the social implications, of health and security, environmental, economic and @industrial of the practice in engineering.

17R. 2018 Capacity to collect and interpret data and handle complex concepts inside the his speciality, to issue judgements that involve a reflection on ethical and social questions

19R. 2018 Capacity to communicate of effective way information, ideas, problems and solutions in the field of the engineering and with the society in general.

21R. 2018 Capacity to recognize the need of a continuous training and realize this activity of independent way during his professional life.

22R. 2018 Capacity to be to the day of the scientific and technological news.

## Contents

### Topic

I. General zoology	<ol style="list-style-type: none"> <li>1. Introduction to the zoology</li> <li>2. Structure of the animal cells</li> <li>3. The cellular division</li> <li>4. The fabrics</li> </ol>
II. Genetic	<ol style="list-style-type: none"> <li>1. Introduction to the mendelism</li> <li>2. Nature of the hereditary material</li> <li>3. Genetic structure of the populations</li> <li>4. Changes of the genic frequencies</li> <li>5. The continuous variation</li> </ol>
III. Descriptive zoology	<ol style="list-style-type: none"> <li>1. General characters of the invertebrates</li> <li>2. Entomology. Characteristic and importance of the insects</li> <li>3. Cordados. Introduction to fishes, amphibious and reptilian</li> <li>4. Birds and mammalian</li> </ol>

## Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	32	48	80
Laboratory practical	20	22	42
Problem solving	4	24	28

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

## Methodologies

	Description
Lecturing	Presentation by the teacher of the contents on the subject under study, theoretical and / or guidelines for a job, exercise or project to be developed by the student.
Laboratory practical	Activities application of knowledge to specific situations and basic skills acquisition and related procedural matter under study. Special spaces are developed with specialized equipment (scientific and technical laboratories, languages, etc.).
Problem solving	Activity which formulated problem and / or exercises related to the course. The student should develop appropriate solutions or right through the exercise routines, application of formulas or algorithms, application processing procedures available information and interpretation of the results. It is often used to complement the lecture.

## Personalized assistance

Methodologies	Description
---------------	-------------

Lecturing

Laboratory practical

Assessment				
	Description	Qualification	Training and Learning Results	
Lecturing	(*)1.-Probas de tipo test 2.-Probas de respuesta corta 3.-Probas de respuesta larga, de desarrollo	75	B1	C13
Laboratory practical	(*)Informes/memorias de prácticas e/ou examen práctico	20		C13
Problem solving	(*)	5		

#### Other comments on the Evaluation

Tests dates:

Official dates and any modification will be accesible in the official notice board and in the web page <http://forestales.uvigo.es/gl/>

#### Sources of information

##### Basic Bibliography

##### Complementary Bibliography

Davies RG, **Introducción a la entomología**, 1989,

Falconer DS, Mackay TFC, **Introducción a la genética cuantitativa**, 1996,

Hickman CP, Roberts LS, Keen S, Larson A, l'Anson H, Eisenhour D, **Principios integrales de zoología**, 2009,

Paniagua R (coordinador), **Citología e histología vegetal y animal**, 2007,

Barrientos JA (ed), **Curso práctico de entomología**, 2004,

Carlos de Liñán Vicente (coord), **Entomología agroforestal**, 1998,

Chinery, M., **Guía de campo de los insectos de España y de Europa**, 2005,

#### Recommendations

##### Subjects that are recommended to be taken simultaneously

Forestry Ecology/P03G370V01402

Mathematics: Statistics/P03G370V01301

#### Contingency plan

##### Description

=== EXCEPTIONAL PLANNING ===

Given the uncertain and unpredictable evolution of the health alert caused by COVID-19, the University of Vigo establishes an extraordinary planning that will be activated when the administrations and the institution itself determine it, considering safety, health and responsibility criteria both in distance and blended learning. These already planned measures guarantee, at the required time, the development of teaching in a more agile and effective way, as it is known in advance (or well in advance) by the students and teachers through the standardized tool.

=== ADAPTATION OF THE METHODOLOGIES ===

\* Teaching methodologies maintained

\* Teaching methodologies modified

\* Non-attendance mechanisms for student attention (tutoring)

\* Modifications (if applicable) of the contents

\* Additional bibliography to facilitate self-learning

\* Other modifications

=== ADAPTATION OF THE TESTS ===

\* Tests already carried out

Test XX: [Previous Weight 00%] [Proposed Weight 00%]

...

\* Pending tests that are maintained

Test XX: [Previous Weight 00%] [Proposed Weight 00%]

...

\* Tests that are modified

[Previous test] => [New test]

\* New tests

\* Additional Information

---