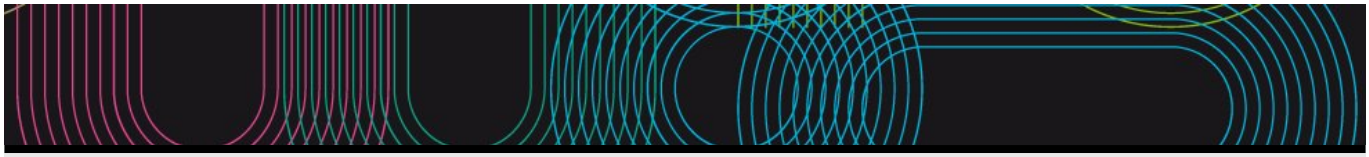

IDENTIFYING DATA				
Forest and pasture management				
Subject	Forest and pasture management			
Code	P03G370V01704			
Study programme	(*)Grao en Enxeñaría Forestal			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	4th	1st
Teaching language	Spanish Galician			
Department				
Coordinator	Valero Gutiérrez del Olmo, Enrique María			
Lecturers	Valero Gutiérrez del Olmo, Enrique María			
E-mail	evalero@uvigo.es			
Web	http://http://webs.uvigo.es/mchamorro/			
General description	(*)Coñecer as bases ecolóxicas que rexen o funcionamento natural dos diversos sistemas pastorais e silvopastorais. Analizar a estructura, manexo e xestión dos devanditos sistemas silvopastorais			

Competencies	
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.
B11	Ability to characterize the anatomical and technological properties of wood and non-timber forest raw materials, as well as the technologies and industries of these raw materials.
C8	Knowledge of the bases and biological foundations of the plant field in engineering.
C15	Ability to know, understand and use the principles of: forest botany.
C17	Ability to know, understand and use the principles of silviculture.
C27	Ability to know, understand and use the principles of: prevention and fight against forest fires.
C35	Ability to know, understand and use the principles of: pasciculture and agroforestry systems.
D5	Capacity for information management, analysis and synthesis
D6	Organization and planning capacity
D8	Ability to solve problems, critical reasoning and decision making

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 B11	C8 C15 C17	D5 D6 D8
3R. 2018 Be conscious of the multidisciplinary context of the engineering.		C27	
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.		C35	
5R. 2018 Capacity to identify, formulate and resolve problems of engineering in the his speciality; choose and apply analytical methods, of calculation and experiments properly established; Recognize the importance of the social restrictions, of health and security, environmental, economic and industrial.			
6R. 2018 Capacity to project, design and develop complex products (pieces, component, products finished, etc.), processes and systems of the his speciality, that fulfil the requirements established, including the knowledge of the social aspects, of health and environmental security, economic and industrial; as well as select and apply methods of appropriate project.			
7R. 2018 Capacity of the project using any knowledges advanced of the his speciality in engineering.			
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.			
11R. 2018 Understanding of the techniques and methods of analysis, project and applicable investigation and his limitations within the scope of the his speciality.			
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.			
14R. 2018 Capacity to apply norms of engineering in the his speciality.			
15R. 2018 Knowledge of the social implications, of health and security, environmental, economic and @industrial of the practice in engineering.			
16R. 2018 general Ideas on economic questions, organisational and of management (how management of projects, management of risks and change) in the industrial and entrepreneurial context.			
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			
18R. 2018 Capacity to manage activities or technical projects or complex professionals of the his speciality, assuming the responsibility of the takes of decisions.			
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.			

Contents

Topic	
INTRODUCTION TO PASTORING SYSTEMS. CONDITIONING AND IMPROVEMENT OF PASTURES	SUBJECT 1: General silvipastoral concepts. Basic pastoral management. SUBJECT 2: The vegetal component of the grazing system. Pastoral classification systems SUBJECT 3: Packaging and improvement of pastures. I Rozas. The burning. Enclosures. SUBJECT 4: Packaging and improved pastures II: Limestone amendments. Fertilization. Irrigation and drainage.
PASTURE USE. PASCICOLOGICAL SPECIES	SUBJECT 5: Basic concepts: grazing. Sega. Nutritional value: Quantity. Bromatoloxico value and palatability. SUBJECT 6: Management of grazing systems and livestock. The quantification of production and storage SUBJECT 7: Control of livestock density. Grazing and control of plant fuels. Masses of trees and pastures. Ecological effects. SUBJECT 8: Classification of silvopastoral systems. SUBJECT 9: Main pasture species.

THEME OF LABORATORY PRACTICES	SUBJECT 1P: recognition of plant species of the main genera of grasses and legumes of pastoral interest. SUBJECT 2P: Description of species of pastoral interest using transparencies and slides. SUBJECT 3P: Classification of plant species with taxonomic keys.

Planning			
	Class hours	Hours outside the classroom	Total hours
Mentored work	10	25	35
Studies excursion	25	10	35
Lecturing	40	35	75
Objective questions exam	3	0	3
Practices report	1	0	1
Systematic observation	1	0	1
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

Methodologies	
	Description
Mentored work	1. Formulation and resolution of exercises on real situations. 2. Simulation of management over the territory. To make a herbarium with the main purpose of the herbarium is to serve to study the main grasses and legumes of our environment
Studies excursion	Collect and identify grasses and legumes.
Lecturing	Identify Grasses and legumes of silvopastoral interest

Personalized assistance	
Methodologies	**Description**
Lecturing	
Mentored work	
Studies excursion	
Tests	**Description**
Objective questions exam	

Assessment			
	Description	Qualification	Training and Learning Results
Mentored work	(*)(*) Confeción dun Herbario	10	
Studies excursion	(*)(*) Recoñocemento e identificacion en campo de especies de interese pascicola	10	
Lecturing	(*) (*) Recoñocemento de especies pascicolas	10	
Objective questions exam	(*)Recoñocer os coñecementos adquiridos	70	

Other comments on the Evaluation

Sources of information
Basic Bibliography
Complementary Bibliography
SAN MIGUEL, A., **Pastizales Naturales Españoles**,
RIGUEIRO,A., **Pastoreo controlado en los bosques gallegos**,
SAN MIGUEL, A, **La dehesa Española**,
ETIENNE,M., **Western European Silvopastoral Systems**,
GONZALEZ HERNANDEZ,P, **Estudio de las formaciones arboladas y arbustivas como base para su aprovechamiento cinegético**, Tesis doctoral inédita,
RIGUEIRO,A, **La utilización del ganado en el monte arbolado gallego, un paso hacia el uso integral del monte**, En:Estudios sobre prevención y efectos ecológicos de los incendios forestales,61-78,
MONTOYA, J. M., **Pastoralismo Mediterráneo**,
SILVA,F.J, **Prácticas agroforestales en pinares y eucaliptales atlánticos**,

KNOWLES,R.L. & CUTLER,T.R, **. Integration of Forestry and Pastures in New Zealand**,

Recommendations

Subjects that continue the syllabus

Biology: Plant Biology/P03G370V01201
Forest Ecology/P03G370V01402

Subjects that are recommended to be taken simultaneously

Forestry/P03G370V01401
Forest management/P03G370V01605

Subjects that it is recommended to have taken before

Botany/P03G370V01303
Edaphology/P03G370V01302