



## IDENTIFYING DATA

### Edaphology

Subject	Edaphology			
Code	P03G370V01302			
Study programme	(*)Grao en Enxeñaría Forestal			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	2nd	1st
Teaching language	Galician			
Department				
Coordinator	Marcet Miramontes, Purificación			
Lecturers	Marcet Miramontes, Purificación			
E-mail	marcet@uvigo.es			
Web				
General description				

## 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.
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 .
C10	Basic knowledge of geology and terrain morphology and its application in problems related to engineering. Climatology. Ability to know, understand and use the principles of: physical sciences: geology, soil science and climatology.
D2	Ability to communicate orally and written in Spanish or in English
D4	Sustainability and environmental commitment
D5	Capacity for information management, analysis and synthesis
D6	Organization and planning capacity
D8	Ability to solve problems, critical reasoning and decision making
D9	Teamwork skills, skills in interpersonal relationships and leadership.
D10	Autonomous Learning

## 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	C10	D2
3R. 2018 Be conscious of the multidisciplinary context of the engineering.			D4
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			D5
*relevante and interpret correctly the results of these analyses.			D6
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.			D8
6R. 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.			D9
7R. 2018 Capacity to consult and apply codes of good practices and security of the his speciality.			D10
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.			
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.			
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.			
20R. 2018 Capacity to work effectively in national and international contexts, individually and in team, and cooperate with the engineers and people of other disciplines.			
22R. 2018 Capacity to be to the day of the scientific and technological news.			
<hr/>			
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.			
3R. 2018 Be conscious of the multidisciplinary context of the engineering.			
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.			
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.			
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.			
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.			
20R. 2018 Capacity to work effectively in national and international contexts, individually and in team, and cooperate with the engineers and people of other disciplines.			
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

1.Introducción The wool environmental geology	Minerales, cristales and rocks. Geodynamic Internal. Geodynamic External. Geology of Galicia. Geological resources.
---	---

2. The soil: Approaches, work and study.	The soil: conceptual approaches. Edafic organizations. Edafology. The Science of the soil.
3. Ecological factors of training	Genesis of soils: factors and processes. Spatial variability of the soil. Horizonation. Ecological factors of training of soil.
4. Meteorization of rocks and minerals and edaphogenesis.	Weathering. Type and processes of weathering. Approach general of wool edaphogenesis. Conceptual model: basic processes in him development of the soil. Basic processes and resultant horizons. Weatherization and Deep geochemical
5. Studio of the soils in him field. Morphology and description of the soils.	Place and pedión. Wool calicata. Morphology of the soil. Studio of wool internal organization of a soil. Interpretation of a profile of a soil. Properties and characteristics of a soil. You work of transferring. Description Of floors. Horizons of the soil: Horizons genetic and horizons of diagnosis
6. Physical properties and comportamiento of the soil.	The soil how system of three phases. Physical properties of the soil. Composition granulometric. Texture. Color. Structure of the soil: description of wool organization of wools individual particles. Density and porosity
7. Inorganic components of the soil	Origin of minerals of soil. The minerals Of wools particles of soil. Minerals Of wool fraction, sand and limo. Minerals Of wool fraction clay
8. Organic components of the soil.	Contributions Of organic subject. Organic subject of the soil and humus. You work of wool organic subject of the soil. Factors that influence in him content, class and evolution of wool organic subject of the soil. Relation C / N. Evolution of wool organic subject of the soil. Importance environmental of wool organic subject of the soil
9. Chemical properties, physical-chemical and behavior of the soil	Chemical of the soils. Forms in that find the chemical elements in the soils: bioavailability. Colloidal properties of the soil and react of surface. Capacity of exchange Cationic. Reaction of soil. Salinity, Sodcity and Alkalinity of soil. Potential of Oxidation-Reduction. Pollution of soils.
10. Ecology Of the soil and cycle of the element	Soil and biodiversity: flows of nutrient and energy. Rhizosphere. You work of the organisms in him soil. Cycles biogeochemicals.
11. Water Of soil: content, potentials and movement.	Content Of water in him soil. Measure of the content of water in him soil. Energy of water in soil: potential water and its components. Hydraulic conductivity. Infiltration. Classes of drainage
12. Introduction The wool classification of the soils.	Wool classification of soils. Soil Taxonomy. World Reference Base was Soil Resources.
13. Quality and sustainability: Forests and quality of the ecosystem	I have ecosystem forest and I soil. Management or forest management sustainable. Quality of the soil. Indicators Of quality. Evaluation of wool quality of forest soils
14. Climatology	Factors that condition wool expression of a climate. Elements of the climate. Atmospheric circulation. Analysis and prediction Of the time. Wools climatic classifications.

## Planning

	Class hours	Hours outside the classroom	Total hours
Laboratory practical	16	14	30
Studies excursion	5	2	7
Presentation	3	20	23
Lecturing	30	60	90

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

## Methodologies

	Description
Laboratory practical	Activities of application of the knowledge to concrete situations and of acquisition of basic and procedural skills related to the subject matter of study. They are developed in special spaces with specialized equipment (scientific-technical laboratories, languages, etc.).
Studies excursion	Activities of application of the knowledge to concrete situations and of acquisition of basic and procedural skills related to the subject matter of study. They are developed in non-academic outer spaces. Among them we can mention field practices, visits to events, research centers, companies, institutions ... of academic-professional interest for the student
Presentation	Exposition by the student to the teacher and / or a group of students of a topic about contents of the subject or the results of a work, exercise, project ... It can be carried out individually or in a group.
Lecturing	Teacher presentation of contents on the subject matter of study, theoretical bases and / or guidelines of a work, exercise or project to be developed by the student

Personalized assistance				
Methodologies			Description	
Laboratory practical				
Studies excursion				
Presentation				
Assessment				
	Description	Qualification	Training and Learning Results	
Laboratory practical		20		D2 D6 D8
Presentation		20		D2
Lecturing		60	C10	D6
Other comments on the Evaluation				
Sources of information				
Basic Bibliography				
Complementary Bibliography				
PORTA, J., LÓPEZ-ACEBEDO, M. , ROQUERO DE LABURU, C., <b>Edafología para la agricultura y el medio ambiente</b> , 2003,				
PORTA, J; LÓPEZ-ACEVEDO, M , POCH, R.M., <b>Introducción a la Edafología: Uso y Protección del Suelo</b> , 2008,				
PORTA, J. ,LÓPEZ-ACEVEDO M., <b>Agenda de campo de suelos. Información de suelos para la agricultura y el medio ambiente. del suelo.</b> , 2005,				
BRADY, N. C., <b>Elements of the Nature and Properties of Soils</b> , 2010,				
WHITE R., <b>Principles and practice of soil science</b> , 2007,				
CHARMAN P., MURPHY B., <b>Soils . Their propierties and management</b> , 2007,				
BLANCO H., LAL R., <b>Principles of soil conservation and management</b> , 2008,				
FUENTES YAGÜE J.L., <b>Iniciación a la meteorología y climatología agrícola</b> , 2000,				
Ledesma, Manuel, , <b>"Climatología y meteorología agrícola"</b> ,, 2000,				
Elías Castillo, Francisco / Castellví Sentís, Francesc,, <b>"Agrometeorología"</b> ,, 2001,				
Recommendations				