



IDENTIFYING DATA

Botany

Subject	Botany			
Code	P03G370V01303			
Study programme	(*) Grao en Enxeñaría Forestal			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	2nd	1st
Teaching language				
Department				
Coordinator	Paz Bermudez, María Graciela			
Lecturers	Paz Bermudez, María Graciela			
E-mail	graciela@uvigo.es			
Web	http://faitic.uvigo.es/index.php/es/			
General description	(*) Coñece-los conceptos básicos e a terminoloxía específica para aprender a diferenciar os grandes grupos de organismos que estuda a Botánica, incidindo nos grupos con maior presencia no ámbito forestal galego.			

Competencies

Code			
B1	CG-01: Capacidade para comprender os seguintes fundamentos necesarios para o desenvolvimento da actividade profesional: Biolóxicos.		
B6	CG-06: Capacidade para identificar os diferentes elementos: elementos bióticos.		
B8	CG-08: Capacidade para identificar os diferentes elementos: recursos naturais renovables susceptibles de protección, conservación e aproveitamento.		
B14	CG-14: Capacidade para o uso das técnicas de protección do medio forestal.		
B16	CG-16: Capacidade para o uso das técnicas de conservación da biodiversidade.		
C15	(*) CE-15: Capacidade para coñecer, comprender e utilizar os principios de: botánica forestal.		
D20	(*) CBS 8: Sensibilidade cara a temas ambientais.		

Learning outcomes

Expected results from this subject	Training and Learning Results		
(*)	B1	C15	D20
	B6		
	B8		
	B14		
	B16		

Contents

Topic	
1. Concept of Botanist.	Categories and taxonomic unities. Botanic nomenclature.
2. Morphological levels of vegetal organization.	Traffic of Therophytes to Cormophytes. Generalities of the vascular plants and its adaptive advantages.
3. The reproduction	Types of reproduction. Biological cycles. Alternation of generations and his importance.
4. The plants with seed (Spermatophytes).	General characters. Root and cut. Main type and modifications. The leaf, special trainings and philotaxis. Forms of life.
5. The flower.	Concept of flower in gymnosperms and angiosperms. Floral receptacle. Perianth. Androceo. Xineceo. Inflorescences
6. Pollination	Main type and floral syndromes. Evolution of the flower in relation of type of pollination
7. Fertilization	Differences between the fertilization in Gymnosperms and Angiosperms. Training of the seed. Fruits and Inflorescences. Dispersion.

8. Gymnosperms	General characters. Reproduction: Vital cycle. Main groups. Division Cycadophyta. Division Ginkgophyta.
9. Division Coniferophyta. General characteristics. Class Coniferopsida	
Class Coniferopsida	
10. Order Coniferales, Family Pinaceae.	General characteristics. Ecological importance, forestal and economic. Genders more representative.
11. Family Cupressaceae.	General characteristics. Genders more representative.
12. Family Taxodiaceae.	General characters. Genders more relevant. Forestal importance and examples. Family Araucariaceae, species more relevant.
13. Quotation of the families Podocarpaceae and (*). Cephalotaxaceae. Order Taxales, Family Taxaceae, species more relevant and forestal importes.	
14. Anxiospermas. Div. Magnoliophyta General characters.	Reproduction: Vital cycle. Differential characters go in the classes Magnoliopsida (Dicotyledonous) and Liliopsida (monocotiledóneas).
15. Magnoliopsida Class (dicotyledonous). Subclase 1: Magnoliidae. General characters.	Families: Magnoliaceae, Lauraceae, Ranunculaceae, Berberidaceae. Genders and species more important and examples.
16. Subclass 2: Hamamelididae.	General characters of the families Hamamelidaceae and Platanaceae. Species of forestal and ornamental interest.
17. Special quotation of the families Fagaceae and Betulaceae.	Genders and species more relevant. Ecological and economic interest.
18. Family Juglandaceae. General characters of the families Ulmaceae and Moraceae.	(*)
19. Subclass 3: Caryophyllidae.	General characters. Quotation of the most important orders. Examples.
20. Subclass 4: Dillenidae.	General characters of the families of main economic and forestal: Theaceae, Tiliaceae, Cistaceae, Salicaceae, Brasicaceae, Ericaceae.
21. Subclass 5: Rosidae.	Families of main forestal interest: Rosaceae, Leguminosaceae, Myrtaceae, Aquifoliaceae, Rutaceae, Anacardiaceae, Hippocastanaceae, Aceraceae, Rhamnaceae, Buxaceae.
22. Subclass 6: Asteridae.	Quotation of the most representative families: Solanaceae, Caprifoliaceae, Lamiaceae, Oleaceae and Asteraceae
23. Class Liliopsida (monocotiledoneas).	Differential characters and families more significant.
24. Concept of Geobotanic	Distribution of the plants and floristic territories. Biogeographic kingdoms.

Planning

	Class hours	Hours outside the classroom	Total hours
Outdoor study / field practices	2	0	2
Laboratory practises	16	10	26
Autonomous troubleshooting and / or exercises	4	28	32
Master Session	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
Outdoor study / field practices	Activities application of knowledge to specific situations and basic skills acquisition and related procedural matter under study. They thrive in nonacademic outdoor spaces. Among them we can cite practical field visits to events, research centers, companies, institutions ... academic-professional interest to the student.
Laboratory practises	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.).
Autonomous troubleshooting and / or exercises	Actividade in which problems are formulated and / or exercises related to the course. The student must develop the analysis and resolution of problems and / or exercises independently.
Master Session	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.

Personalized attention

Methodologies	Description
Laboratory practises	
Autonomous troubleshooting and / or exercises	

Assessment

	Description	Qualification	Training and Learning Results
Outdoor study / field practices	(*)No exame de laboratorio integraranse os coñecementos adquiridos nas saídas de campo. Avalíase a competencia B20	5	D20
Laboratory practises	(*)Farase unha avaliación continua ó alumnado das actividades plantexadas nas clases prácticas. Ó final do curso o alumnado deberá entregar unha memoria final e/ou realizar unha proba sobre identificación de distintos pliegos de especies forestais. Avalánse as competencias A10,A18,A20	20	B8 B14 B16
Autonomous troubleshooting and / oradquiridos coa resolución de problemas dun xeito autónomo. exercises	(*)No exame da sesión magistral integraranse os coñecementos ó final do curso o alumnado deberá entregar un herbario formado, principalmente, polas especies forestais tratadas na parte teórica e/ou un traballo bibliográfico ou de investigación. Estes coñecementos poderán integrarase no exame de laboratorio ou valorarse dun xeito independiente Avalánse as competencias A68,B20	5	C15 D20
Master Session	(*)Proba con preguntas tipo test, de resposta curta e de resposta longa; o alumnado deberá demostrar os coñecementos adquiridos. Avalán-se as competencias A2,A8,A68	70	B1 C15 B6

Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Díaz González T. E., Fernández-Carvajal M. C., Fernández Prieto J. A., **Curso de Botánica**, Ed. Trea, Oviedo, Izco J. (coord.), **Botánica**, Ed. McGraw- Hill. Interamericana, Madrid., Nabors M.W., **Introducción a la Botánica**, Ed. Pearson, Madrid., Strasburger, E., **Tratado de Botánica**, Ed. Omega, Barcelona, Blanco Castro, E. et al., **Los Bosques Ibéricos. Una interpretación Geobotánica.**, Ed. Planeta, Barcelona, Castro, M.; Prunell, A. & Blanco-Dios, J., **Guía das árbores autóctonas e ornamentais de Galicia.**, Ed. Xerais, Vigo, Castroviejo,S. (coord.), **Flora ibérica: Plantas vasculares de la Península Ibérica e Islas Baleares.**, Real Jardín Botánico, C.S.I.C. Madrid, García, X.R., **Guía das plantas de Galicia**, Ed. Xerais, Vigo, López González, G., **Guía de los árboles y arbustos de la península Ibérica y Baleares**, Mundi-Prensa Libros, Carrión, J.S., **Evolución vegetal**, DM, Niño Ricoi, H., **Guía das árbores de Galicia**, Bahia, Polunin, O. & Smythies, B.E., **Guía de campo de las flores de España, Portugal y Sudoeste de Francia**, Omega,

Recommendations

Subjects that continue the syllabus

Biology: Plant Biology/P03G370V01201

Forestry Ecology/P03G370V01402