



Teaching Guide				
Identifying Data				2016/17
Subject (*)	Iniciación á Botánica: Botánica xeral	Code	610G02023	
Study programme	Grao en Bioloxía			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	1st four-month period	First	Obligatoria	6
Language	SpanishGalician			
Teaching method	Face-to-face			
Prerequisites				
Department	Bioloxía Animal, Bioloxía Vexetal e Ecoloxía			
Coordinador	Fagúndez Díaz, Jaime	E-mail	jaime.fagundez@udc.es	
Lecturers	Díaz Tapia, Pilar Fagúndez Díaz, Jaime Peña Freire, Viviana Pimentel Pereira, Manuel Sahuquillo Balbuena, Elvira	E-mail	p.diaz@udc.es jaime.fagundez@udc.es v.pena@udc.es m.pimentel@udc.es elvira.sahuquillo@udc.es	
Web				
General description	Iniciación á Botánica ou ciencia que se encarga do estudo dos diferentes grupos de organismos classicamente coñecidos como vexetais, integrando información doutras materias (fisioloxía, anatomía e histoloxía vexetal, bioquímica, xenética, ecoloxía, etc) e que capacita ao alumno para traballar en diferentes ámbitos: como investigador, docente, na asesoría ambiental, a agronomía e a etnobotánica.			

Study programme competences / results	
Code	Study programme competences / results
A1	Recoñecer distintos niveis de organización nos sistemas vivos.
A2	Identificar organismos.
A4	Obter, manexar, conservar e observar espécimes.
A7	Reconstruír as relacións filogenéticas entre unidades operacionais e pór a proba hipóteses evolutivas.
A19	Analizar e interpretar o comportamento dous seres vivos.
A22	Describir, analizar, avaliar e planificar o medio físico.
A29	Impartir coñecementos de Bioloxía.
A30	Manexar adecuadamente instrumentación científica.
A31	Desenvolverse con seguridade nun laboratorio.
A32	Desenvolverse con seguridade no traballo de campo.
B1	Aprender a aprender.
B3	Aplicar un pensamento crítico, lóxico e creativo.
B6	Organizar e planificar o traballo.
B8	Sintetizar a información.
B12	Adaptarse a novas situacións.
C1	Expresarse correctamente, tanto de forma oral coma escrita, nas linguas oficiais da comunidade autónoma.

Learning outcomes			
Learning outcomes		Study programme competences / results	
-Coñecer a diversidade vexetal e os niveis de organización morfolóxica.		A1	B1
		A2	B6
		A4	B8
		A29	



- Comprender a organización taxonómica dos organismos vexetais e a súa nomenclatura.	A1 A29		
-Aprender as técnicas básicas de traballo de campo e laboratorio en Botánica.	A2 A4 A22 A29 A32	B1 B6 B12	
- Desenvolver as capacidades de observación, descrición e identificación de organismos vexetais.	A1 A2 A4 A29 A30 A31 A32	B1 B6 B8	C1
-Desenvolver o hábito e a capacidade para o manexo adecuado e crítico da bibliografía.		B1 B6	
-Incentivar un maior interese e motivación para o aprendizaxe da Botánica, como unha ciencia imprescindible para a súa completa formación como Biólogos.		B1	
-Entender os tipos de reprodución e ciclos biolóxicos característicos dos distintos grupos vexetais.	A1 A4 A19 A29	B1 B6 B8	
- Interpretar as evidencias das relacións evolutivas entre os organismos vexetais.	A2 A7	B3	

Contents	
Topic	Sub-topic
Teoría: Introduction and general characteristics	1 Plants and related organisms in the tree of life. Evolutionary relationships and phylogeny. Characteristics and main groups. 2 Morphological organization of plants and related organisms. From talophytes to cormophytes. 3 Reproduction. Alternation of nuclear phases and generations. Biological cycles. 4 Systematics, nomenclature and taxonomy of plants and other related groups.
Teoría: Studied groups	5 Flowering plants. General characteristics and life cycle of seed plants. 6 Morphology and floral biology of seed plants. 7 Angiosperms (monocots and dicots) and gymnosperms. 8 The non-flowering plants. General characteristics of embriophytes. Vascular embriophytes. General characteristics and life cycle of pteridophytes. 9 Prevascular embriophytes. General characteristics and life cycle of bryophytes. 10 Cyanobacteria and eukaryotic algae. 11 Fungi and other heterotrophic organisms. Lichens and other symbiotic associations.
Teoría: Introduction to plant conservation and geobotany	12 Conservation of plant diversity. Threats and conservation strategies. 13 Geobotany as integrative science. The floristic kingdoms and major plant formations of the Earth.
Seminars	1 Diagrams and floral formulas. Identification keys (2h). 2 Seminar on vascular and prevascular plants (2h). 3 Cycles of life of algae and fungi (2h). 4 Comparative studies of organisms (1h).



Lab sessions	<p>1 Observation of terrestrial plants in their natural environment. Collection and preservation methods.</p> <p>2 Observation and description of dicotyledonous angiosperms.</p> <p>3 Observation and Description of monocot angiosperms.</p> <p>4 Observation and description of gymnosperms.</p> <p>5 Observation and description of pteridophytes.</p> <p>6 Observation and description of bryophytes.</p> <p>7 Observation and description of macroscopic algae.</p> <p>8 Observation and description of microscopic algae.</p> <p>9 Observation and description of fungi.</p>
Case studies	<p>1 Collection, identification and conservation of two dicotyledonous angiosperms.</p> <p>2 Collection, identification and conservation of two monocotyledonous angiosperms.</p> <p>3 Collection, identification and conservation of two gymnosperms.</p> <p>4 Collection, identification and conservation of ferns and moss.</p> <p>5 Collection, identification and conservation of two different macroalgae division.</p> <p>6 Collection, identification and preservation of higher fungi and lichen.</p>

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Case study	A1 A2 A4 A22 A32 B6 B12 C1	1	22	23
Laboratory practice	A1 A2 A4 A19 A29 A30 A31 A32 B1 B6 B8 B12 C1	18	9	27
Guest lecture / keynote speech	A1 A7 A19 A29 B3	21	52.5	73.5
Seminar	A1 A7 A19 A29 B1 B6 B8 C1	7	17.5	24.5
Personalized attention		2	0	2

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

Methodologies	
Methodologies	Description
Case study	The student will collect, identify and handle properly preserved, a collection of 12 samples, including 4 angiosperms, 2 gimnosperms, 1 fern, 1 bryophyte, 2 algae from different phyla, 1 fungi and 1 lichen.
Laboratory practice	The student will work with different kinds of living and preserved material, representative of the studied groups of the subject.
Guest lecture / keynote speech	Lecturers will explain the main concepts of the subject. Slides will be uploaded.
Seminar	Lecturers will invite the students to work on specific aspects of the studied groups, and discussion will follow in seminars.

Personalized attention	
Methodologies	Description
Seminar Laboratory practice Guest lecture / keynote speech Case study	Any personal queries will be addressed in personal meetings with the students

Assessment



Methodologies	Competencies / Results	Description	Qualification
Seminar	A1 A7 A19 A29 B1 B6 B8 C1	Quality of interventions and demonstrated interest in the subject	5
Laboratory practice	A1 A2 A4 A19 A29 A30 A31 A32 B1 B6 B8 B12 C1	A short test at the end of the lab sessions	20
Guest lecture / keynote speech	A1 A7 A19 A29 B3	Final exam with essay, short-answered and test questions	65
Case study	A1 A2 A4 A22 A32 B6 B12 C1	Quality of the personal collection of organisms will be evaluated	10

Assessment comments

At least 70% of attendance. At least 4.5 over 10 in the final exam. At least 4 over 10 in the lab exam.

The student will have two opportunities at June and July, no qualifications will be kept for forthcoming years.

"No presentado" will be achieved only if the student has participated in less than 30% of the total activities.

For part time students and those with any disabilities, the attendance may be substituted by an essay proposed by the professor and evaluated in a personal meeting.

Sources of information

Basic	Teoría: BARNES, C. (2001). Invitación a la Biología. Panamericana. DIAZ-GONZALEZ, T.E.; FERNÁNDEZ-CARVAJAL, M.C. & FERNÁNDEZ, J. A. (2004). Curso de Botánica. Ediciones Trea, Gijón. FONT I QUER, P. (1982). Iniciación a la Botánica. Editorial Fontalba. FONT I QUER (1987). Plantas medicinales. El Dioscórides renovado. Labor. FONT I QUER, P. (1993). Diccionario de Botánica. Labor, Barcelona. IZCO, J.; BARRENO, E.; BRUGUÉS, M.; COSTA M.; DEvesa, J.; FERNÁNDEZ, F.; GALLARDO, T.; LLIMONA, X.; SALVO, E.; TALAVERA, S. & VALDÉS, B. (2004). Botánica. McGraw-Hill, Madrid. NABORS, M.W. (2006). Introducción a la Botánica. Pearson. REECE, C. et al. (2008). Biology. Pearson International Edition. SCAGEL, R.; BANDONI, R.J.; ROUSE, G.E.; SCHOFIELD, G.E.; STEIN, J.R. & TAYLOR, T.M. (1987). El Reino Vegetal. Omega, Barcelona. STRASBURGER, E., F. NOLL, H. SCHENCK & A.F.W. SCHIMPER. (2004). Tratado de Botánica (actualizado por P. SITTE et al.) Omega, Barcelona. Prácticas:
Complementary	

Recommendations

Subjects that it is recommended to have taken before

Subjects that are recommended to be taken simultaneously

Subjects that continue the syllabus

Botánica sistemática: Criptogamia/610G02024

Botánica sistemática: Fanerogamia/610G02025

Xeobotánica: Xeografía botánica/610G02026

Other comments

<p>It is highly recommended that you take this course before any of other continuing subjects.<p>

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