



IDENTIFYING DATA

Biology: Plant Biology

Subject	Biology: Plant Biology			
Code	P03G370V01201			
Study programme	(*)Grao en Enxeñaría Forestal			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Basic education	1st	2nd
Teaching language				
Department				
Coordinator	Souto Otero, José Carlos			
Lecturers	Souto Otero, José Carlos			
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General description	Knowledge of the basic principles of the Vegetal Biology: anatomy, physiology and ecology of the plants.			

Competencies

Code	
B1	CG-01: Capacidade para comprender os seguintes fundamentos necesarios para o desenvolvemento da actividade profesional: Biolóxicos.
B6	CG-06: Capacidade para identificar os diferentes elementos: elementos bióticos.
B20	CG-20: Coñecemento das bases da mellora forestal e capacidade para a súa aplicación práctica á produción de planta e á biotecnoloxía.
C8	(*)CE-08: Coñecemento das bases e fundamentos biolóxicos do ámbito vexetal na enxeñaría.
D6	(*)CBI 6: Adquirir capacidade de resolución de problemas.

Learning outcomes

Expected results from this subject	Training and Learning Results		
They treat and they evaluate the distinguished competitions.	B1	C8	D6
	B6		
	B20		

Contents

Topic
1.- Introduction to the vegetal Biology.
2.- General structure of the vegetal cells.
3.- The cellular division.
4.- Introduction to the vegetal anatomy.
Meristems.
5.- Parenchyma, collenchyma and sclerenchyma.
6.- Conductive fabrics. The xylem. The phloem.
7.- Epidermis. The peridermis.
8.- General structure of the vascular plants.
9.- The leaf.
10.- The flower.
11.- Alternation of generations in haplodiplotes.
12.- Fecundation.
13.- The plants and the water.
14.- Absorption of nutrients.
15.- The photosynthesis.
16.- The breath.
17.- Growth and development.
18.- Physiology of the seed.

Planning			
	Class hours	Hours outside the classroom	Total hours
Master Session	20	40	60
Case studies / analysis of situations	2	4	6
Autonomous troubleshooting and / or exercises	1	3	4
Presentations / exhibitions	1	5	6
Laboratory practises	25	25	50
Outdoor study / field practices	10	14	24

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

Methodologies	
	Description
Master Session	Exhibition of the contents of the *asignatura. They treat the competitions To2, To8, To25 and To61.
Case studies / analysis of situations	Formulation, analysis, resolution and debate of a problem or exercise related with the thematic of the *asignatura. They treat the competitions To2 and *B6.
Autonomous troubleshooting and / or exercises	Formulation, analysis, resolution and debate of a problem or exercise related with the thematic of the *asignatura, by part of the *alumnado. They treat the competitions To2 and *B6.
Presentations / exhibitions	Oral exhibition by part of the *alumnado of a concrete subject or of a work (previous presentation written). They treat the competitions To2, To8, To25 and To61.
Laboratory practises	Application to practical level of the theory of Vegetal Biology in the laboratory. They treat the competitions To2, To8, To25 and To61.
Outdoor study / field practices	Realisation of visits-exits to the field for the observation and study of the plants in his natural surroundings. They treat the competitions To2, To8, To25 and To61.

Personalized attention

Methodologies	Description
Presentations / exhibitions	

Assessment				
	Description	Qualification	Training and Learning Results	
Master Session	Examination: proof with questions of short answer and others of long answer. The students have to answer to the questions to show the knowledges purchased on the matter. They evaluate the competitions To2, To8, To25, To61 and *B6.	60	B1 B6 B20	C8 D6
Presentations / exhibitions	It evaluates the preparation of the work and his oral exhibition. They evaluate the competitions To2, To8, To25 and To61.	20	B1 B6	C8
Laboratory practises	Continuous evaluation of the activities realised in the practices, as well as of the memory that the students have to deliver when finalising the course. They evaluate the competitions To2, To8, To25 and To61.	20	B1 B6 B20	C8

Other comments on the Evaluation

The second announcement evaluates the same that the ordinary announcement.

Sources of information

Basic Bibliography

Complementary Bibliography

Raven PH, Evert RF & Eichhorn SE, **Biology of plants**, WH Freeman and CP,
 Nabors M.W., **Introducción a la Botánica**, Pearson-Addison Wesley,
 Azcón-Bieto J & Talón M, **Fundamentos de Fisiología Vegetal**, Mc Graw Hill,
 Paniagua R, **Citología e Histología vegetal y animal**, Mc Graw Hill,
 Stern KR, Bidlack JE & Jansky SH, **Introductory plant biology**, Mc Graw Hill,
 Taiz L & Zeiger T, **Plant physiology**, 5ª ed.; Sunderland, MA : Sinauer Associates,

Recommendations