



IDENTIFYING DATA

Marine botany

Subject	Marine botany			
Code	V10G061V01202			
Study programme	(*)Grao en Ciencias do Mar			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	2nd	1st
Teaching language	Spanish Galician English			
Department				
Coordinator	Castro Cerceda, María Luísa			
Lecturers	Castro Cerceda, María Luísa Sánchez Fernández, José María			
E-mail	lcastro@uvigo.es			
Web				
General description	Study of the main marine plant groups, classification, life habits and interactions with other groups and the environment			

Competencies

Code	
A2	Students can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study
A3	Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include reflection on relevant social, scientific or ethical issues
A4	Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences
A5	Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy
C4	Know, analyze and interpret the physical properties of the ocean according to current theories, as well as to know the most relevant sampling tools and techniques.
D1	Develop the search, analysis and synthesis of information skills oriented to the identification and resolution of problems.
D2	Acquire the ability to learn autonomously, continuously and collaboratively, organizing and planning tasks over time.
D3	Understanding the meaning and application of the gender perspective in different fields of knowledge and in professional practice with the aim of achieving a more just and equal society.
D5	Sustainability and environmental commitment. Equitable, responsible and efficient use of resources.

Learning outcomes

Expected results from this subject	Training and Learning Results	
To know the origin and evolution of the marine plants and the features of the main groups	A2	D3
	A3	D5
	A4	
	A5	
To acquire the skills to collect, prepare, analyze, identify and preserve plant samples	C4	D1 D2
To acquire the capacity to deepen in the autonomous learning on the problems related to the Marine Botany, and to communicate that knowledge in an efficient way	A3	D1
	A4	D2
	A5	D3
		D5

Contents

Topic

1. Introduction to Botany	1.1. Definition of Botany 1.2. Groups of plants 1.3. Relationship with the degree
2. Plant reproduction	2.1. Asexual reproduction 2.2. Sexual reproduction
3. Procariotic algae	3.1. Main features of Cyanophyta 3.2. Main features of Prochlorophyta
4. Introduction to the eukaryotic algae	4.1. Origin of the main lines of photosynthetic organisms 4.2. Phylum Gaucophyta 4.3. Phylum Euglenophyta
5. Unicellular phyla; main features	5.1. Phylum Cryptophyta 5.2. Phylum Haptophyta 5.3. Phylum Pyrrophyta
6. Phylum Ochrophyta (Heterokontophyta) I	Main features
7. Phylum Ochrophyta (Heterokontophyta) II	7.1. Class Xantophyceae 7.2. Class Bacillariophyceae
8. Phylum Ochrophyta (Heterokontophyta) III	8.1. Class Phaeophyceae. Main features
9. Phylum Ochrophyta (Heterokontophyta) III	9.1. Main features of Bangiophyceae 9.2. Main features of Floridophyceae
10. Phylum Chlorophyta I	10.1. Main features of Prasinophyceae 10.2. Main features of Chlorophyceae 10.3. Main features of Bryopsidophyceae 10.4. Main features of Ulvophyceae 10.5. Main features of Zygnematophyceae
11. Ecology and ethnobotany of algae	11.1. Introduction to the study of the marine algae communities 11.2. Uses of the algae
12. Introduction to the flowering plants	12.1. Main features and life cycle 12.2. Adaptations to the coastal environment
13. Coastal vegetation	13.1. Introduction
14. Fungi and lichens	14.1. Main features

Planning

	Class hours	Hours outside the classroom	Total hours
Laboratory practical	9	9	18
Field practice	4	10	14
Seminars	3	3	6
Mentored work	0	23	23
Lecturing	25	25	50
Essay	7	14	21
Report of practices, practicum and external practices	1	5	6
Problem and/or exercise solving	2	10	12

*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	Study and identification of the main groups of algae
Field practice	"In situ" study of the main algal communities and coastal vegetation of the Atlantic Coast of Galicia
Seminars	Discussion of the work of each group; questions and doubt solution
Mentored work	Planification and elaboration of a bibliographic or experimental work by the students
Lecturing	Master class of each lesson of the theory program, supported on infographic materials

Personalized assistance

Methodologies	Description
Lecturing	Classroom lesson with support on audiovisual material, trying to make them as participatory as possible
Laboratory practical	Study of the morphology, systems of reproduction and identification of the main groups of seaweeds. Use of laboratory material, mainly optical equipment (stereo microscope and microscope)
Field practice	Study of the main communities of coastal plants, and their adaptations to live under marine influence

Seminars	By groups, work on two aspects related with the development of the course: in the first place how to develop a scientific/technical report, and second methods of phylogenetic reconstruction, which are used during all the course as a link that relates the biological groups. Students willin so will be able to solve doubts during OFFICE HOURS on Mondays and Tuesday at 10-13h; It is recommended to book an appointment by email beforehand.
Mentored work	Students will be guided by the professor during the development of the work

Assessment				
	Description	Qualification	Training and Learning Results	
Essay	Public presentation of the groups' reports	15	A2 A3 A4 A5	D3 D5
Report of practices, practicum and external practices	Evaluation of the reports on the field and laboratory sessions	20	A5	C4 D3
Problem and/or exercise solving	assessment of the theoretical part of the course	65		

Other comments on the Evaluation

IT IS NECESSARY to reach half of the note in each one of the three evaluations in order to pass the course.

Those activities that were not evaluated during the regular course will have to be evaluated before the second final exam in July. The grades of those parts passed in June can be kept for the "second chance" in July, but NOT further.

The participation in any of the activities implies that the final qualification will be different from "not presented".

The dates of the exams are approved by the Faculty (mar.uvigo.es/alumnado/examenos)

It is required that the students in this course behave in a responsible and honest way.

It is deemed inadmissible any form of fraud (i.e. copy and / or plagiarism) in any type of test or report designed to evaluate the level of knowledge or skill achieved by a student. Any fraud on the part of the student will result in failing the course; further fraud will lead to start disciplinary actions in front of the Rectorate

Sources of information

Basic Bibliography

Izco, J. (Ed.), **Botánica**, 2, McGraw-Hill/Interamericana,
 Graham, J.E., Wilcox, L.W., Graham, L.E., **Algae**, 2, Benjamin Cummings,
 Lee, R.E., **Phycology**, 4, Cambridge University Press,

Complementary Bibliography

van den Hoek, C., **Algae**, 1, Cambridge University Press,
 Dawes, C.J., **Marine Botany**, 2, Wiley,
 Varios, **Artículos en Revistas**,

Recommendations

Subjects that continue the syllabus

Marine and coastal management/V10G060V01704
 Marine Ecology/V10G061V01206

Subjects that it is recommended to have taken before

Biology: Biology I/V10G061V01101
 Biology: Biology 2/V10G061V01106

Contingency plan

Description

=== EXCEPTIONAL PLANNING ===

Given the uncertain and unpredictable evolution of the health alert caused by COVID-19, the University of Vigo establishes an extraordinary planning that will be activated when the administrations and the institution itself determine it, considering safety, health and responsibility criteria both in distance and blended learning. These already planned measures guarantee, at the required time, the development of teaching in a more agile and effective way, as it is known in advance (or well in

advance) by the students and teachers through the standardized tool.

=== ADAPTATION OF THE METHODOLOGIES ===

* Teaching methodologies maintained

In case the academic authorities impose a BLENDED LEARNING system, assistance to laboratory classes and field trips will be maintained.

* Teaching methodologies modified

BLENDED LEARNING

The only modification will be in masterclasses, which will be imparted in remote, via [Campus Remoto] or FaiTIC, after the indications that the academic authorities consider fit.

FULL DISTANCE LEARNING

Theory lessons (masterclasses): will be imparted in remote, via [Campus Remoto] or FaiTIC. The presentation files and additional documents will be made available at FaiTIC for those students with any problem to connect live.

Practical lessons and Seminars: will be imparted in remote, via [Campus Remoto] or FaiTIC. The presentation files and additional documents will be made available at FaiTIC for those students with any problem to connect live. If the trip field (field classes) cannot be carried out, a remote presentation showing the main plant species and communities of the Corruedo Natural Park will be presented via [Campus Remoto], with additional material in FaiTIC.

* Non-attendance mechanisms for student attention (tutoring)

For both BLENDED or FULL DISTANCE LEARNING, tutoring will be attended in remote, using the institutional e-mail addresses, or via [Campus Remoto] at an hour and time previously accorded.

=== ADAPTATION OF THE TESTS ===

* Tests already carried out

In case the normal (assistance) course should be interrupted, the tests and exam already done at the time will keep the weight included in this Guide both for BLENDED and FULL DISTANCE LEARNING.

* Tests that are modified

In case the academic authorities impose a BLENDED or FULL DISTANCE LEARNING system, the grading percentages in this Guide will be maintained. In such a case, the percentage of the continuous assessment within the [Problem and/or exercise solving] will be increased up to a 25% maximum.
