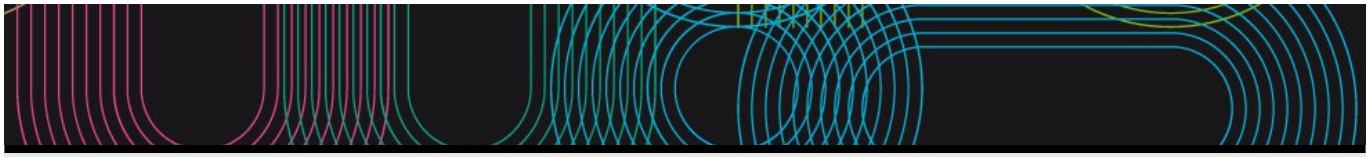

IDENTIFYING DATA				
Biology of Exploited and Potentially Exploitable Species				
Subject	Biology of Exploited and Potentially Exploitable Species			
Code	V02M098V01207			
Study programme	(*)Máster Universitario en Bioloxía Mariña			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	García Estévez, José Manuel Cremades Ugarte, Javier			
Lecturers	Cremades Ugarte, Javier Fernández Rodríguez, Luis García Estévez, José Manuel Rubal García, Marcos Taboada Montero, Mª Cristina Veiga Sánchez, María Purificación			
E-mail	jestevez@uvigo.es javier.cremades@udc.es			
Web				
General description	(*)Ciclo vital e dinámica de poboacións das especies actualmente explotadas no litoral galego, e de especies potencialmente *explotables. Hábitat, abundancia, distribución e propiedades *nutritivas			

Competencies	
Code	
A4	(*)Que os estudantes saiban comunicar as súas conclusións, e os coñecementos e razóns últimas que as sustentan, a públicos especializados e non especializados dun xeito claro e sen ambigüidades.
A5	(*)Que os estudantes posúan as habilidades de aprendizaxe que lles permitan continuar estudando dun xeito que terá que ser, en grande medida, autodirixido e autónomo.
B2	Búsqueda, análisis e integración de información a partir de diferentes fuentes y capacidad para su interpretación y evaluación
B5	Desarrollo de la habilidad de elaboración, presentación y defensa de trabajos e informes técnicos
C2	Conocimiento de la diversidad de organismos marinos y sus estrategias adaptativas
C3	Conocimiento y comprensión de las interacciones de los organismos marinos y los ecosistemas marinos y costeros
C4	Conocimiento y búsqueda del potencial interés económico y biotecnológico de los organismos marinos
C5	Conocimiento de los principios de explotación y sostenibilidad del medio marino y planificación y supervisión de su gestión
C9	Conocimientos de instituciones, organismos y legislación relacionados con el medio marino y sus recursos empresariales y económicos
C10	Inspección y asesoramiento técnico en la evaluación, explotación y gestión de pesquerías, extracción de recursos e instalaciones de acuicultura
D1	Desarrollo de las capacidades comprensivas, de análisis y síntesis
D2	Desarrollo de la capacidad de razonamiento crítico y autocrítico
D4	Desarrollo de la capacidad para actualizar el conocimiento de forma autónoma
D7	Desarrollo de habilidades para la divulgación de ideas en contextos tanto académicos como no especializados
D8	Desarrollo de la habilidad para hablar bien en público

Learning outcomes	
Expected results from this subject	Training and Learning Results

(*)	C5
(*)	B2 C2 C3 C4
(*)	C2 C3
(*)	C2 C3 C5
(*)	C4
New	C5 C9 C10 D4
New	A4 A5 B2 B5 D1 D2 D4 D7 D8

Contents	
Topic	
(*)Concept of species *explotable and potentially *explotable.	(*)Main species exploded in the coasts of Galicia. Figures of production, economic assessment and markets of destination.
(*)Species associated to *sustratos rocky *I.	(*)Main species of *macroalgas *bentónicas *intermareales and *submareales exploded at present in Galicia. Examples type: *alginófitos, *carragenófitos, *agarófitos and alimentary seaweeds. Cycle of life, habitat, adaptations, abundance and geographic distribution. Other species exploded and potentially *explotables.
(*)Species associated *sustratos rocky *II.	(*)Main species of marine invertebrates *bentónicos exploded at present in Galicia. Cycle of life, habitat, adaptations, abundance and geographic distribution. Examples type: seed of mussel, hedgehog and *percebe. Other species exploded or potentially *explotables.
(*)Species associated to *sustratos soft.	(*)Main species of marine invertebrates exploded at present in Galicia. Cycle of life, habitat, adaptations, abundance and geographic distribution. Examples type: *berberechos, clams, razors and other bivalve molluscs. Other species exploded or potentially *explotables.
(*)Species *pelágicas (*costeras and oceanic).	(*)Habitat and adaptations. Generalities and species guides. Examples type: anchovy and sardine; beautiful and fish sword. Potentiality of species *explotables (*descartes).
(*)Species *demersales and of bottom (fishes and crustaceans).	(*)Habitat and adaptations. Generalities and species guides. Examples type: hake, anglers, commercial crustaceans. Potentiality of species *explotables (*descartes).
(*)Marine species potentially *explotables in Galicia and new resources for the *alimentación human.	(*)Nutritious value of *macroalgas and marine invertebrates. Derivative effects of the consumption of marine products in the human beings and his repercussion in physiological parameters.

Planning			
	Class hours	Hours outside the classroom	Total hours
Lecturing	24	58.8	82.8
Presentation	4	16	20
Seminars	4	0	4
Mentored work	12	30	42
Essay questions exam	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	
	Description
Lecturing	Presentation by the teacher of the contents on the subject matter of study, theoretical bases and / or guidelines of a work or exercise that the student has to develop.

Presentation	Presentation by the students to the teacher and / or a group of students of a subject matter or content of the results of a job, exercise, project ... It can be done individually or in groups.
Seminars	(*)Personalización do apoio e seguimento do alumno.
Mentored work	(*) Para desenvolver a capacidade de buscar e estruturar unha información traballando de forma autónoma e de expor publicamente os resultados obtidos.

Personalized assistance

Methodologies	Description
Presentation	
Seminars	

Assessment

	Description	Qualification	Training and Learning Results			
Presentation	The work done and delivered as well as the clarity and synthesis capacity in its public exposure will be evaluated	20	A4 A5	B2 B5		D2 D4 D7 D8
Mentored work	Both the attendance and attitude in the lectures will be evaluated.	10				D1 D2
Essay questions exam	The written exam will consist of a series of development questions of medium length and covering all parts of the subject	70	A5	B2	C2 C4 C5 C9 C10	D1 D4

Other comments on the Evaluation

Sources of information

Basic Bibliography

Bocanegra, A., Bastida, S., Benedí, J., Ródenas, S. & F.J. Sánchez-Muníz, **Characteristics and nutritional and cardiovascular-health properties of seaweeds**, 2009

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Doumenc, D. A. & Van Praet, **Ordre des Actiniaires. Ordre des Phychodactinaires. Ordre des Corallimorphaires**, In Grassè, P.P. (Ed.), Traitte de Zoologie.Vol. III, Masson, Paris, 1987

Figueras, A. J., **Biología y cultivo del mejillón (Mytilus galloprovincialis) en Galicia**, Biblioteca de Ciencias, Consejo Superior de Investigaciones Científicas, M, 2007

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Graham, L.E., J.M. Graham & L.W. Wilcox, **Algae**, Second edition, Pearson, 2009

Guiry, M.D. & Blunden, G., **Seaweeds Resources in Europe: Uses and Potential**, John Wiley & Sons, West Sussex, 1991

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Little, C. & J.A. Kitching, **The Biology of Rocky Shores**, Oxford University Press, 1996

Lobban, C.S. & P.J. Harrison, **Seaweed ecology and physiology.**, Cambridge Univ. Press, Cambridge, 1994

Lüning, K., **Seaweeds their environment, biogeography and ecophysiology**, John Wiley & Sons, Inc. Toronto, 1990

Molares, J., **Estudio del ciclo biológico del percebe (Pollicipes cornucopia Leach) de las costas de Galicia**, 1993

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Weatherley, A.H. & H.S. Hill, **The biology of fish growth**, Academic Press, London, 1987

Complementary Bibliography

Barnes, M., **Pedunculate cirripedes of the genus Pollicipes**, 1996

Bell, M., F. Redant & I. Tuck, **Lobsters: biology, management, aquaculture and fisheries**, Bruce Phillips (ed.). Blackwell Publishing, 2006

Cruz, T., **Biologia e ecología do percebe, Pollicipes pollicipes (Gmelin, 1790) no litoral sudoeste portugués**, Universidad de Évora, 2000

Lustres Pérez, V., **El erizo de mar: Paracentrotus lividus (Lamarck, 1816) en las costas de Galicia**, Universidad de Santiago de Compostela, 2006

Manuel, R. L., **British Anthozoa (Coelenterata: Octocorallia & Hexacorallia)**, Synopses of the British Fauna (New Series)., 18 (R, 1988

Sakaguchi, M. (Ed.), **Developments in food science. More efficient utilization of fish and fisheries products**, Elsevier, 2004

Xunta de Galicia, **Plan de ordenación de los recursos pesqueros y marisqueros de Galicia (III). Las algas en Galicia alimentación y otros usos**, Santiago de Compostela, 1993

Recommendations

Subjects that continue the syllabus

Evaluation and Exploitation of Coastal Resources/V02M098V01208

Subjects that it is recommended to have taken before

Marine Botany/V02M098V01102
Marine Zoology/V02M098V01103

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

* Teaching methodologies modified

* Non-attendance mechanisms for student attention (tutoring)

* Modifications (if applicable) of the contents

* Additional bibliography to facilitate self-learning

* Other modifications

=== ADAPTATION OF THE TESTS ===
* Tests already carried out
Test XX: [Previous Weight 00%] [Proposed Weight 00%]
...

* Pending tests that are maintained
Test XX: [Previous Weight 00%] [Proposed Weight 00%]
...

* Tests that are modified
[Previous test] => [New test]

* New tests

* Additional Information