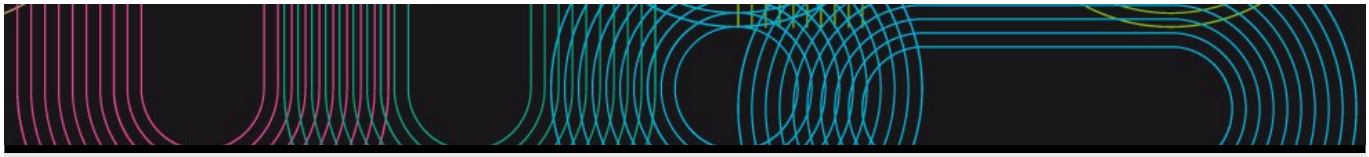

IDENTIFYING DATA				
Science and technology of fish related products				
Subject	Science and technology of fish related products			
Code	O01G041V01702			
Study programme	Grado en Ciencia y Tecnología de los Alimentos			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	4th	1st
Teaching language	Spanish			
Department				
Coordinator	Martínez Suárez, Sidonia			
Lecturers	Martínez Suárez, Sidonia			
E-mail	sidonia@uvigo.es			
Web				
General description	This discipline has like aims the study of the nature of the products of the fishing, and the causes of his alteration, in addition to the fundamentos scientific and the applications of the methods used for his processed, conservation and diversification.			

Training and Learning Results	
Code	
A2	Students will be able to apply their knowledge and skills in their professional practice or vocation and they will show they have the required expertise through the construction and discussion of arguments and the resolution of problems within the relevant area of study.
B2	Students will acquire and put teamwork skills and abilities into practice, whether these have multidisciplinary character or not, in both national and international contexts, becoming familiar with a diversity of perspectives, schools of thought and practical procedures.
C2	To be familiar with the chemistry and biochemistry of food and of its associated technological processes.
C5	To be familiar with the basic operations in the food industry.
C6	To be familiar with the industrial processes linked with the processing and transformation of food.
C12	Ability to make and preserve food.
C15	Ability to develop new processes and products.
C21	Ability to act as consultant in processes of marketization and distribution of products in the food industry.
D1	Analysis, organization and planning skills.
D7	Ability to adapt to new situations in creative, innovative ways.
D8	Critical and self-critical thinking skills.
D9	Interdisciplinary teamwork skills.
D10	Conflict-resolution and negotiation skills.

Expected results from this subject	Training and Learning Results			
RA2: The student that there is cursado the asignatura with buen aprovechamiento will remain capacitado stop: - Develop his professional activity like technician in an industry pesquera.	A2	B2	C2 C5 C6 C12 C15 C21	D1 D7 D8 D9 D10

Contents	
Topic	
Unit I: INTRODUCTION	Subject 1.- Fish industry

Unit II: CLASSIFICATION PRODUCTS OF THE FISHING	Subject 2.- The products of the fishing.
Unit III: COMPOSITION OF THE MUSCLE OF THE FISH	Subject 3.- The muscle of the fish.
Unit IV: TRANSFORMATION OF THE MUSCLE IN MEAT	Subject 4.- Biochemical changes post-mortem.
Unit V: QUALITY	Subject 5.- Attributes of quality of the fish.
Unit SAW: SYSTEMS OF FISHING And *ESTIBA	Subject 6.- Capture, manipulation and distribution of the fish.
Unit VII: SYSTEMS OF CONSERVATION And INDUSTRIALISATION	Subject 7.- Refrigeration of the fish. Subject 8.- Freezing of the fish. Subject 9.- Salting and dehydration of the fish. Subject 10.- Canned fish Subject 11.- Semi-canned fish Subject 12.- Smoked fish Subject 13.- The molluscs. Subject 14.- The crustaceans. Subject 15.- The cephalopods. Subject 16.- Surimi Subject 17.- Concentrated proteic of fish muscle.
SEMINARS	1. Processed in the fish industry 2. Fishing sector 3. Seaweeds 3. Other fish products
PRACTICES OF LABORATORY	1. Classification of fish 2. Quality parameters of fish and fishery products 3. Processing of fishery products

Planning			
	Class hours	Hours outside the classroom	Total hours
Lecturing	27	32.5	59.5
Seminars	14	15	29
Laboratory practical	14	4	18
Studies excursion	0	5	5
Mentored work	0	10.5	10.5
Seminars	0	2	2
Autonomous problem solving	0	1.5	1.5
Presentation	1	2	3
Learning-Service	0	20	20
Objective questions exam	0	1.5	1.5
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

Methodologies	
	Description
Lecturing	Lessons *magistrales in which they will expose the most important appearances of the subject to the student, with support of presentations in Power *Point, blackboard and transparency and with available material *FAITIC

Seminars	Will carry out different activities oriented to specific subjects related with the Science and the Technology of the Products *Pesqueros, that allow to deepen and complement the lessons *magistrales. They will elaborate works using different tools TIC to apply the learning *colaborativo in the classroom and out of her. It will work of individual form or in group.
Laboratory practical	They made activities where will apply the skills and knowledges purchased in the theoretical classes. Under the supervision of the professor, the students will carry out these activities following the protocols and using the materials supplied during the practices. The practical will be compulsory and indispensable to surpass the subject. It will allow a fault as long as this was justified. The students will have to elaborate a memory of practices.
Studies excursion	They will make , whenever the sanitary situation allow it, visits to companies related with the industry *pesquera
Mentored work	They will elaborate works using different tools TIC to apply the learning *colaborativo in the classroom and out of her. It will work of individual form or in group. The student will have to make bibliographic researches, collected of information, editorial, exhibition and defence of the work. It will make a follow-up of the work in *tutorías.
Seminars	Will carry out different activities oriented to specific subjects related with the Science and the Technology of the Products *Pesqueros, that allow to deepen and complement the lessons *magistrales.
Autonomous problem solving	They will propose practical cases and activities to do of autonomous form
Presentation	The students will elaborate of individual form or in group a work on some/you of the subject/*s proposed, that will be in relation with some concrete appearance of the subject. The student will have to make bibliographic researches, collected of information, editorial, exhibition and defence of the work.
Learning-Service	It offers him to the *estudiantado participate of voluntary form in the project "Feeding a sustainable future" devoted to the production and the responsible consumption, the hunger zero, the industry of foods and the innovation. The participation will be voluntary. The students participants will receive material of support that will have to expand by means of bibliographic research. They will work in team. They will make on-line informative activities and/or face-to-face in format of day/workshop/chats in the centres involved. The application of this methodology is conditioned to his approval in the announcement *ApS 22-23. For the students that do not participate in this activity, this methodology will be substituted by individual works or in group.

Personalized assistance

Methodologies	Description
Seminars	It will make a continuous follow-up of the students and will carry out a personalised attention, through the classes, of the resolution of exercises and of the control of the work made. Also they will be able to assist, if like this they wish it, to the *tutorías in group or customisedThe *tutorías relative to the teaching of the classes types To and *B will make of face-to-face form or in the virtual dispatch of the professor, through the remote campus in schedule of *tutorías and asking previous appointment through the email (sidonia@uvigo.es).
Laboratory practical	It will make a continuous follow-up of the students and will carry out a personalised attention, through the classes, of the resolution of exercises and of the control of the work made. Also they will be able to assist, if like this they wish it, to the *tutorías in group or customisedThe *tutorías relative to the practices (hours type C) will follow the same procedure in the dispatches or virtual classrooms of the professors commissioned of his teaching, whose direction will communicate in his moment.
Mentored work	It will make a continuous follow-up of the students and will carry out a personalised attention, through the classes, of the resolution of exercises and of the control of the work made. Also they will be able to assist, if like this they wish it, to the *tutorías in group or customisedThe *tutorías will follow the same procedure in the dispatches or virtual classrooms of the professors commissioned of his teaching, whose direction will communicate in his moment.

Learning-Service	The professors will define the challenges for the groups participants and will design a stage oflearning will deliver the different tasks between the groups, and will guide in the process ofrealisation of the same

Assessment						
	Description	Qualification	Training and Learning Results			
Lecturing	In the total qualification will take into account, the participation of the student and the attitude. Results of learning evaluated: *RA1 and *RA2	2		B2	C2 C5 C6 C12 C15 C21	
Seminars	It will value the participation and the attitude, in addition to the correct realisation of all the activities posed. Results of learning evaluated: *RA1 and *RA2	2		B2	C12 C15 C21	
Laboratory practical	It will value the participation, the attitude Resulted of learning evaluated: *RA1 and *RA2	7		B2	C2 C6 C12 C15 C21	
Mentored work	It will value the number, the quality of the works presented, the exhibition and the defence Resulted of learning evaluated: *RA1 and *RA2	24		B2	C15 C21	
Autonomous problem solving	It will value the realisation of the activities proposed *RA1, *RA2	5	A2	B2	C2 C5 C6 C12 C15 C21	D1 D7 D8 D9 D10
Learning-Service	It will make an assessment *multifocal of the project Resulted of learning evaluated: *RA1 to *RA6	20	A2	B2	C2 C5 C6 C12 C15 C21	D1 D7 D8 D9 D10
Objective questions exam	They will make one or two test type test and of short questions Resulted of learning evaluated: *RA1 and *RA2	40			C2 C6 C12 C15 C21	

Other comments on the Evaluation

Sources of information

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Recommendations