



IDENTIFYING DATA

Product Innovation and Process

Subject	Product Innovation and Process			
Code	V11M085V01402			
Study programme	(*)Máster Universitario en Ciencia e Tecnoloxía de Conservación de Produtos da Pesca			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	2nd	2nd
Teaching language	Spanish			
Department				
Coordinator	Canosa Saa, Jose Manuel			
Lecturers	Canosa Saa, Jose Manuel Larsson , Olof Christian Loureiro Perez, Manuel R. Sartal Rodríguez, Antonio Vázquez Pérez, Xosé Ramón			
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Web	http://webs.uvigo.es/pesca_master/			
General description	This course will cover aspects such as the description of the process of launching a new product, Approach and development of life studies, Methodologies for the development of new products, Innovation in process, Future prospects in fishery products and Aquaculture, Methodologies for estimating production costs, Map of R & D & I aid and the environment of public aid to innovation.			

Competencies

Code	
B1	
B2	
B3	(*)Que os estudantes desenvolvan as habilidades para realizar traballos experimentais, manexo de elementos materiais e biolóxicos e programas relacionados.
B4	(*)Que os estudantes desenvolvan as capacidades de traballo en equipo, enriquecidas pola pluridisciplinariedade.
B5	(*)Que os estudantes desenvolvan a habilidade de elaboración, presentación e defensa de traballos ou informes.
B6	
B7	
B8	(*)Que os estudantes posúan as habilidades de aprendizaxe que lles permitan continuar estudando dun modo que habrá de ser en gran medida autodirigido ou autónomo.
C17	(*)Coñecer as variables críticas que determinan a viabilidade dun produto ou procesos novos. Utilizar ferramentas para obter información crítica para a viabilidade.
C18	(*)Coñecer as especies sobreexplotadas ou en vías de extinción e valorar a importancia da sustentabilidade na explotación dos produtos da pesca.

Learning outcomes

Expected results from this subject	Training and Learning Results
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Know the critical variables that determine the viability of a product in the novel processes.	B1 B2 B3 B4 B5 B6 B7 B8 C17
Use tools to obtain critical information to ensure viability.	B1 B2 B3 B4 B5 B6 B7 B8 C17
To know and apply the analytical procedures in microbiology to assure the safety during the Life of the product.	B1 B2 B3 B4 B5 B6 B7 B8 C17 C18

Contents

Topic	
SUBJECT 1. Processing and conservation of sea products.	- Managing innovation for the development of new and new processes Products successfully.
SUBJECT 2. Elaboration of new products.	- Methodologies for the development of novel products
SUBJECT 3. Creative processes applied to the innovation.	- Future prospects for fishery and aquaculture products.
SUBJECT 4. Innovation in packaging.	- Generations - Use of polymers.
SUBJECT 5. subsidies to I+D+i	Map of aids - The environment of public support for innovation

Planning

	Class hours	Hours outside the classroom	Total hours
Master Session	22	38	60
Outdoor study / field practices	5	0	5
Group tutoring	3	0	3
Multiple choice tests	2	5	7

*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	Lecture by the professor of the contents on the subject of study, theoretical bases and approach of exercises to be developed by the student.
Outdoor study / field practices	Visits to industries of the canning industry of seafood and related industries. The objective is to know all the modules and aspects of a plant, involved in the production process. Support of specialists and plant technicians.
Group tutoring	Resolution of doubts and consultations, both in group and individual, regarding the follow-up and study of the classes of the subject of study.

Personalized attention

Methodologies	Description
Group tutoring	The student will be guided in the acquisition of basic skills and problem solving related to the subject under study. The student's progress will be tracked.

Assessment				
	Description	Qualification	Training and Learning Results	
Master Session	It will evaluate the resolution of problems and practical cases, As well as the autonomous work of the student.	30	B1 B2 B7 B8	C17 C18
Outdoor study / field practices	Assistance will be assessed for field practices and /or Visits to industries and the realization of a report of the Visits.	10	B3 B4 B5	C17 C18
Multiple choice tests	There will be an exercise with test questions that Assess the theoretical and practical knowledge acquired In the subject.	60	B1 B2 B7 B8	C17 C18

Other comments on the Evaluation

Sources of information

Basic Bibliography

Benavides C.A, **Tecnología, innovación y empresa**, Ed. Ediciones Pirámide.,

Henry Chessbrough, **Open Services Innovation: Rethinking Your Business to Grow and Compete in a New Era**,

Dorothy Leonard, **Capacidades empresariales para la innovación. Su gestión**, Ed. Cotec.,

P.J. Fellows., **Food Processing Technology**, Cambridge, England. Woodhead Publishing Limited y CRC Press LLC,

Plan Galego de Investigación, Innovación e Crecemento,

Complementary Bibliography

Corcoran, Elizabeth, **Redesigning Research**, Scientific American,

Henry Chessbrough, **Open Business Models: How to Thrive in the New Innovation Landscape**,

Badaway. M.K, **Temas de gestión de la innovación para científicos e ingenieros**, Fundación COTEC,

Alan West, **Estrategia de Innovación**,

Aberdeen, **The Product Innovation Agenda Benchmark Report**,

Robert G. Cooper, **The seven principles of the latest Stage-Gate® method add up to a streamlined**,

Plan Nacional de I+D+i, **Programa de Trabajo 2011**,

PTEPA, **Mapa de ayudas en el sector pesquero y acuícola**,

PTEPA, **Competencias en I+D+i pesquera y acuícola**,

A. G. Gaonkar., **Food Processing: Recent developments**, Elsevier Science & Technology Books,

T. Ohlsson y N. Bengtsson., **Minimal processing technologies in the food industry**, Cambridge, England. Woodhead Publishing Limited,

G.V. Barbosa-Cánovas, M.M. Góngora Nieto, U.R. Pothakamury and B.G. Swanson., **Preservation of foods with pulsed electric fields**, San Diego, USA. Academic Press.,

M. Shafiur Rahman., **Handbook of food preservation**, Boca Raton, USA. CRC Press LLC.,

Da-Wen Sun., **Emerging technologies for food processing**, Food science and Technology, International Series. Elsevier Academic Press,

www.micinn.es,

www.cdti.es,

www.cordis.europe.eu,

www.cotec.es,

Recommendations