



IDENTIFYING DATA

Food Safety in Fishery and Aquacultural Products

Subject	Food Safety in Fishery and Aquacultural Products			
Code	V11M085V01401			
Study programme	(*)Máster Universitario en Ciencia e Tecnoloxía de Conservación de Produtos da Pesca			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	2nd	1st
Teaching language	Spanish			
Department				
Coordinator	Canosa Saa, Jose Manuel			
Lecturers	Avendaño Garcia, Jose M ^a Canosa Saa, Jose Manuel Martínez Fernández, Ana Moreno Carbajo, Vanesa Ruiz Blanco, Carlos S. Viñuela Rodríguez, José Ángel			
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Web	http://webs.uvigo.es/pesca_master/			
General description	In this matter will be approached Autocontrol in the food chain, production control, logistics and assurance, quality management and quality certification.			

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.
C13	(*)Adquirir os coñecementos básicos e interpretar a lexislación aplicable ás instalacións onde se realiza a manipulación e o tratamento dos produtos da pesca ao longo da cadea comercial: hixiene, etiquetaxe, seguridade alimentaria, autocontrol en planta (APPCC), etc.
C14	(*)Valorar a importancia do control e certificación da calidade dos produtos pesqueiros como arma comercial e de cara á trazabilidade e seguridade alimentaria.
C15	(*)Coñecer os procedementos de xestión de alertas alimentarias pola autoridade competente e os responsables da cadea alimentaria
C16	(*)Coñecer as actuacións dos laboratorios de control oficial dos produtos pesqueiros.

Learning outcomes

Expected results from this subject	Training and Learning Results
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Interpreting legislation in the self-control of fishery products, legislation on hygiene, Labeling and food safety.	B1 B2 B3 B4 B5 B6 B7 B8 C13
Practically apply hazard analysis and critical control points (HACCP), with the Peculiarities of each type of process.	B1 B2 B3 B4 B5 B6 B7 B8 C13 C14
To value the importance of the control and certification of the quality of marine food products As a commercial weapon and traceability and food safety.	B1 B2 B3 B4 B5 B6 B7 B8 C14
To know the procedures for the management of food alerts by competent authorities and those responsible for the food chain.	B1 B2 B3 B4 B5 B6 B7 B8 C15
To know the actions of the Laboratories of Official Control of the products of the fishing and the aquaculture.	B1 B2 B3 B4 B5 B6 B7 B8 C16

Contents

Topic	
SUBJECT 1. Self-control in the chain of feeding.	- Traceability. - HACCP. - Study of deviations. - Aspects of practical implementation
SUBJECT 2. Food-packaging interactions	(*)
SUBJECT 3. ESO 9000 standards.	- Application to the processes of elaboration of fishery products.
SUBJECT 4. Official control of fishery products Third countries.	(*)
SUBJECT 5. Laboratories of official control of Fishery products.	(*)
SUBJECT 6. Official Control of Fishery Products In the EU.	(*)

Planning

	Class hours	Hours outside the classroom	Total hours
Master Session	32	56	88
Group tutoring	3	2	5

Outdoor study / field practices	25	25	50
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	Exposition by the teacher of the contents of the subject matter of study, theoretical bases and exercises in projects to be developed by the student. Slate and udiovisuales means of transparency exposition will be used.
Group tutoring	Resolution of doubts and consultations either individually or in a small group regarding the follow-up and study of the lessons of the subject.
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 with the support of specialists and plant technicians.

Personalized attention

Methodologies Description

Group tutoring	The student will be guided in the acquisition of basic skills and related problem solving With the subject matter of study. The student's progress will be tracked.
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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 C13 B2 C14 B7 C15 B8 C16
Outdoor study / field practices	Assistance will be assessed to field practices (visits to The industries) and the realization of a memory of the visits	10	B3 C13 B4 C14 B5 C15 C16
Multiple choice tests	There will be an exercise with test questions that Assess the acquired theoretical and practical knowledge In the subject.	60	B1 C13 B2 C14 B7 C15 B8 C16

Other comments on the Evaluation

Sources of information

Basic Bibliography

FAO., **El Pescado Fresco: su calidad y cambios en su calidad,**

FAO., **Sistemas de Calidad e Inocuidad de los alimentos. Manual de Capacitación sobre higiene de los alimentos y sobre el sistema de análisis de Peligros y de Puntos de Control Críticos,**

FAO, **Food safety risk analysis.,**

A. Ruiter, **El pescado y los productos derivados de la pesca. Composición, propiedades nutritivas y estabilidad.,** Editorial Acribia,

WHO, **Training Consideratrions for the Aplication of the Hazard Analysis Critical Control Point System to Food Processing and Manufacturing,**

Gobierno Vasco, **Estándar de referencia de los sistemas de autocontrol de empresas alimentarias basados en el APPCC/HACCP,**

James G. Brennan., **Manual del procesado de los alimentos.,** Editorial Acribia,

Complementary Bibliography

Jean-Yves Leveau y Marielle Bouix., **Manual Técnico de Higiene, Limpieza y Desinfección,**

Ramón Madrid, Juana Mary Madrid, Antonio Madrid., **La limpieza y desinfección en las industrias alimentarias,** ILE- Julio-Agosto, 33-38,

Roy Kirby., **HACCP in practise,** Food Control Volume 5 Number 4 (230-236),

Codex Alimentarius, **Otras normas y códigos del Codex aplicables a productos de la pesca,**

Codex Alimentarius, **Código de Prácticas para el pescado y los productos pesqueros.,**

FDA., **Fish and Fisheries Products Hazards and Controls Guidance,**

Alianza Nacional HACCP para pescados y mariscos, **HACCP: Programa de capacitacion en Analisis de Peligros y Puntos Criticos de Control,**

FAO/WHO, **Guidance to guidance to governments on the application of HACCP,**

Mortimore, S., Wallace, C, **HACCP. Enfoque práctico.,** Editorial Acribia, S.A. Zaragoza,

J. Puig-Durán, **Ingeniería, Autocontrol y Auditoría de la Higiene en la Industria Alimentaria,**

Couto Lorenzo, Luis, **Auditoría del Sistema APPCC**,

Generalitat de Catalunya. Agencia Catalana de Seguritat Alimentaria, **El autocontrol en los establecimientos alimentarios. Guía para la aplicación del autocontrol basado en el Sistema de Análisis de Peligros y Control de Puntos Críticos.**,

Cheftel, Jean-Claude and Heri, **Introducción a la bioquímica y tecnología de los alimentos. Editorial Acribia. Volumen I y II,**

Zdxislaw E. Sikorski, **Tecnología de los productos del mar. Recursos, composición nutritiva y conservación,** Editorial Acribia,

M.E.Stansby, **Tecnología de la Industria Pesquera,** Editorial Acribia,

G.H.O. Burgess, C.L. Cutting, J.A.Lovern, J.J. Waterman, **El pescado y las industrias derivadas de la pesca,** Editorial Acribia,

Secretaría de Estado de Comercio., **Dirección General de Comercio Exterior. Cierres y defectos de envases metálicos para productos alimenticios,** PROAGRAF, S.A.,

Canadian Food Inspection Agency, **METAL CAN DEFECTS Identification and lassification Manual,**

Stumbo, C. R., J.R. Murphy, and J. Cochran, **Nature of Thermal death time curves for P.A. 3679 and Clostridium botulinum,** FOOD TECHNOLOGY, 4. 321.,

Frazier, W.C., Westhoff, D.C., **Microbiología de los Alimentos.**, 3ª edición. Editorial Acribia, S.A. Zaragoza,

Banwart, G.J., **Basic Food Microbiology,** 2nd Edition. Van Nostrand Reinhold. New York.,

Holdsworth D., Simpson R, **Thermal Processing of Packaged Foods,** Second Edition. Ed. Springer,

Shafiur Rahman M, **Handbook of Food Preservation,** Second Edition. CRC Press.,

www.fda.gov,

www.codexalimentarius.net,

<http://www.mapa.es/es/pesca/pags/calidad/calidad.htm>,

- http://www.fao.org/index_es.htm,

Recommendations
