

**Improved Quality of Foods of Animal Origin in the
Food Industry**

Code: 45420
ECTS Credits: 9

2025/2026

Degree	Type	Year
Quality of Food of Animal Origin	OB	1

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Teaching groups languages

You can view this information at the [end](#) of this document.

Prerequisites

No official requirements are defined for this course. However, we strongly recommend that the student has basic knowledge in general process at the food industry, and Food chemistry and composition.

Objectives and Contextualisation

To establish criteria for proper food processing to ensure its quality, taking into account all stages until the food reaches the consumer.

To study conventional processes applied in the agri-food industry to products of animal origin, referred to the quality module from the farm as well as their derivatives. It involves using appropriate criteria to the characteristics of processed food consumption and identifying relevant issues that affect and determine their quality at different stages of the process, from previous treatments until the product reaches the consumer. It's also included the study of different aspects that affect and guarantee product quality such as composition, physical, chemical, biochemical and microbiological properties as well as the proper use of additives.

Learning Outcomes

1. CA03 (Competence) To design fresh and processed food production processes based not only on scientifically established quality criteria, but also on the consumer's point of view.
2. KA05 (Knowledge) To identify the quality parameters of both fresh and processed foods in accordance with their standards.
3. KA06 (Knowledge) To identify and describe the main potential modifications that may affect quality during the processing and storage of a specific food.
4. SA03 (Skill) To adequately establish the process for producing fresh and processed food in accordance with their standards of quality.
5. SA04 (Skill) To decide the appropriate ingredients for producing processed food in accordance with the quality requirements and based on scientific-technical criteria.
6. SA05 (Skill) To select the ideal way to present a product to consumers and how it should be stored until consumption.
7. SA06 (Skill) To complete the self-learning activities assigned as part of the subject as a team.
8. SA06 (Skill) To complete the self-learning activities assigned as part of the subject as a team.
9. SA07 (Skill) To orally communicate the results of a group project, demonstrating knowledge of the concepts and a critical analysis of the activity.
10. SA07 (Skill) To orally communicate the results of a group project, demonstrating knowledge of the concepts and a critical analysis of the activity.

Content

Milk and dairy products

- Milk: Influence of previous treatments on the quality of milk and derivatives. Influence of heat treatments on the quality of milk and derivatives.
- Yogurt and fermented milks: Initial quality of milk for the preparation of yogurt and fermented milks. Influence of the process on the quality of the final product. Use of microbial cultures for quality improvement. Defects in yogurts and fermented milks.
- Cheese: Initial quality of milk for cheese making. Cheese production procedures and their influence on the quality of the final product. Cheese defects.
- Other dairy products: Ice cream, cream, butter, milk powder, condensed milk.

Meat and meat products

- Quality of fresh meat: strategies in slaughterhouses and cutting rooms. Sanitary, organoleptic quality and shelf life.
- Injected meats: differentiation between legislation, organoleptic and nutritional quality. Ingredients and additives according to their function. Industrial performance.
- Restructured meats: applicable technologies, ingredients and necessary additives. Design potential of meats of desired composition.
- Quality of heat-treated meat derivatives according to business objectives: desirable properties of raw materials and evolution of products over the years.
- Quality of the fermented meat derivatives according to business objectives: desirable properties of the raw materials and evolution of the products over the years.

Fish and derived products.

- Optimization of the processing offishery products: based on the quality factors already known for each type of product and pursuing benefits for the environment, for the industry and for the consumer.
- Assessment of the quality of fish and processed products: delve into the most recent contributions of instrumental and sensory analytical methods.

Eggs and egg products.

- Quality assessment: current methodologies applicable to shell eggs, non-destructive and to the most widely used isolated components and their derivatives in the industry.

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Laboratory	18	0.72	KA05, KA06, SA03, SA04, SA05, SA06, KA05
Lectures	31	1.24	CA03, KA05, KA06, SA03, SA04, SA05, CA03
Seminars and conferences	21	0.84	CA03, SA06, SA07, CA03
Type: Supervised			
Supervised work	32	1.28	CA03, KA05, KA06, SA03, SA04, SA06, CA03
Type: Autonomous			
Bibliographic work and autonomous study	123	4.92	CA03, KA05, KA06, SA03, SA04, SA05, SA06, CA03

The methodology of the module will be based on master classes, lectures by professionals, seminars, laboratory practices and work presentations by students through self-study work. Some visits are also scheduled.

Milk and dairy products:

- *Master classes*
- *Visit to a official laboratory.*
- *Laboratory:*
 - Influence of factors affecting yogurt production process on quality, and quality control of the final product.
 - Influence of the coagulation of milk and curd whey on cheese quality.
 - Cheese quality control.
- *Conference dictated by a professional of the sector:Ice cream quality at industry.*
- *Self-learning:* students, in small groups (2-3 people depending on enrolled), will study the main effects that determine the quality of different dairy products by oral presentation.

Meat and meat products:

- *Master classes.*
- *Self-learning:* Students, in small groups or individually will study one of the topics proposed in more depth by oral presentation.
- *Laboratory:*Use of additives in meat products and their influence on the final quality.

Fish and derived products

- *Master classes.*
- *Visit to an industry of the fish sector.*
- *Conference dictted by a professional of the sector.*

Eggs and egg products

- *Master classes.*

- Laboratory; Methods of evaluation of the quality of the raw material.
- *Self-learning* together with fish and products.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continuous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Assistance and active participation in lectures	5-10%	0	0	SA06
Co-evaluation of work by classmates	15-20%	0	0	CA03, KA05, KA06, SA03, SA04, SA05, SA06
Oral defense of self-learning	60-65%	0	0	CA03, KA05, KA06, SA03, SA04, SA05, SA06, SA07
Tutorial attendance:	10-15%	0	0	CA03

The part corresponding to the competences evaluation of this module will be assessed by subjects:

- Milk and dairy products: completion, presentation and discussion of self-learning work (33.3%).
- Meat and meat products: completion, presentation and discussion of the self-learning work (33.4%)
- Fish and egg products: will be evaluated together. Completion, presentation and discussion of self-learning work (33.3%)

This course does not provide for a single evaluation system.

Bibliography

Milk and dairy products:

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- CHANDAN, R. C.; KILARA, A., SHAH, N.P. (2008). Dairy Processing and Quality Assurance. John Wiley & Sons, New York, USA.
- GRIFFITHS, M. W. (2010). Improving the Safety and Quality of Milk, Volume 1 - Milk Production and Processing, Volume 2 - Improving quality of milk products. Woodhead Publishing, Cambridge, UK.
- FOX, P.F. (2004). Cheese: chemistry, physics and microbiology. Vol. 1. General aspects. Vol. 2. Major cheese groups. Elsevier Academics, Amsterdam.
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- TAMINE, A. Y. (2009). Dairy Fats and Related Products. John Wiley & Sons, New York, USA.
- TAMINE, A. Y. (2009). Dairy Powders and Concentrated Products. John Wiley & Sons, New York, USA.
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- WEHR, H.M., FRANK, J.F. (2004). Standard methods for the examination of dairy products. American Public Health Association, Washington, USA

Electronic resources:

- Libros electrónicos <http://www.knovel.com/web/portal/browse/subject/60/filter/0/>
- Science Direct <http://www.sciencedirect.com/science/book/9780126726909>
- Scopus <http://www.scopus.com/home.url>
- Journal of Dairy Research <http://journals.cambridge.org/action/displayJournal?jid=dar>
- Journal of Dairy Science <http://www.journalofdairyscience.org/>
- International Dairy Journal <http://www.journals.elsevier.com/international-dairy-journal/>
- Dairy Science and Technology (Le Lait) <http://www.dairy-journal.org/>
- ILE, Industrias Lácteas Españolas <http://dialnet.unirioja.es/servlet/revista?codigo=2831>
- Milchwissenschaft <http://www.milk-science-international.com/>

Meat and meat products

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- WARRIS, P.D. 2010. Meat science: an introductory text. Wallingford. 2nd ed.

Electronic resources (acces from a PC conected to a UAB IP or throuot xpv):

- <http://www.knovel.com/web/portal/main> (apartado Food Science)
- <http://www.sciencedirect.com>
- Encyclopedia of meat science
- Encyclopedia of food and nutrition
- [Scientific and technic journals](#):
- [Fleischwirtschaft International](#)
- [Journal of Muscle Foods](#)
- [Meat Science](#)
- [Poultry Science](#)

WEBS:

- American Meat Institute (AMI): <http://www.meatami.com>.
- International Meat Secretariat (IMS): <http://www.meat-ims.org>.
- World's Poultry Science Association (WPSA): <http://www.wpsa.com>.
- Asociación Española de Empresas de la Carne (ASOCARNE): <http://www.asocarne.com>.
- Asociación de Industrias de la Carne de España (AICE): <http://www.aice.es>.

Fish and derived products

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- BREMNER H.A. (2002) Safety and quality issues in fish processing. CRC Press .
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- LOVE R.M. (1988) The food fishes: their intrinsic variation and practical implications. Ed. Avi Book
- LUTEN J.B. [et al.] (2003) Quality of fish from catch to consumer: labelling, monitoring and traceability. Wageningen Academic Publisher
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- El Pescado Fresco: Su Calidad y Cambios de su Calidad - 1999 FAO
- Safety and Quality Issues in Fish Processing (en www.knovel.com)
- Seafood Quality and Safety - Advances in the New Millennium
(https://app.knovel.com/web/toc.v/cid:kpSQSANM03/viewerType:toc/root_slug:seafood-quality-and-safety)

WEBS

- <http://www.fao.org/>
- http://www.seafood.nmfs.noaa.gov/Program_Services.html
- <http://www.qim-eurofish.com/>
- <http://www.seafoodsource.com/>
- <http://www.eurofishmagazine.com/>
- <http://www.ift.org/>
- <http://www.intrafish.com/>
- http://www.conxemar.com/v_portal/apartados/apartado.asp

Eggs and derived products:

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- MEAD G. C. (ed.) (2009) Análisis microbiológico de carne roja, aves y huevos. Ed. Acribia Zaragoza.
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- Electronic resources
- Egg marketing: a guide for the production and sale of eggs FAO 2003
- Risk assessments of salmonella in eggs and broiler chickens FAO 2002
- Biochemistry of Foods (Third Edition) en <http://www.sciencedirect.com/science/book/9780122423529>

WEBS

- <http://www.aeb.org/>
- <http://www.institutohuevo.com>
- <http://www.wpsa-aeca.es/>
- <https://www.internationalegg.com>
- <http://www.sanovogroup.com/>

Software

No specific programs are required.

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(PLABm) Practical laboratories (master)	1	Spanish	first semester	afternoon
(SEMm) Seminars (master)	1	Spanish	first semester	afternoon
(TEm) Theory (master)	1	Spanish	first semester	afternoon