



UNIVERSIDADE DE LISBOA
Faculdade de Medicina Veterinária

Safety and Technology of Animal-Origin Products

Curricular Year: 3rd

Duration: 2nd Semester

Credits: 11 ECTS

Teachers: Maria João Fraqueza (CCP e R); Cristina Mateus; João Cota; Marília Ferreira; Teresa Semedo Lemsaddeck

Contact Hours: 160H Total.

52H Lectures; 108H Practical and laboratory teaching.

Learning objectives:

The aim is for the student to acquire skills to control the quality and safety of animal-origin foods in an integrated manner throughout the production chain, from farm to table. Thus, they will be specifically capable of: a) Understanding the processes involved in the production of animal-origin foods; b) Understanding and critically analyzing factors related to food processing; c) Explaining and applying technological options to achieve specific levels of safety and quality; d) Identifying, analyzing, and evaluating safety and quality issues considering legal requirements; e) Planning and implementing preventive measures for food safety; f) Identifying and applying laboratory control methodologies; g) Critically analyzing laboratory results regarding food quality and safety; h) Communicating with professionals from different backgrounds and levels of knowledge; i) Applying and critiquing ethical and professional conduct within the food production environment.

Program contents:

Role of animal-origin foods in diet and human health. Food safety and One Health. Food safety policy. Codex Alimentarius. Legal requirements. Quality and safety management of animal-origin foods. Prerequisites. Cold technology, food storage (FIFO and FEFO), and transportation. Food packaging. Labeling. Identification of potential hazards. HACCP. Milk and dairy products. Thermal treatments. Fermentation. Meat and meat products. Meat quality. Carcass classification. Meat cutting. Ground meat. Meat preparations. Cured dry and cooked products. Drying. Smoking. Fine pastes. Emerging technologies. Pre-prepared and pre-cooked foods. Ready-to-eat foods. Cook-chill and Cook-freeze. Eggs and egg products. Fish products. Prepared and restructured. Surimi and derivatives. Salted fish products. Marinated fish. Canned fish. Bee products. Food quality and safety control.

Bibliography:

Brennan J. G. 2006. Food Processing Handbook. WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim. ISBN: 3-527-30719-2, 582p.

FAO & WHO. 2023. General principles of food hygiene. Codex Alimentarius Code of Practice, No. CXC 1-1969. Codex Alimentarius Commission. Rome. <https://doi.org/10.4060/cc6125en>

Fraqueza, M.J., Abreu Dias M. 2016. Processed Fishery Products, Chapter 8

In: Practical Notions on Fish Health and Production. Editors: Oliveira, M.M., Robalo, J., Bernardo, F. Ebooks, Bentham Science. Published by Bentham Science Publishers – Sharjah, UAE. DOI: 10.2174/97816810826771160101, pp. 249-317.



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Tetrapack 2024. Dairy Processing Handbook. Technology, Engineering, Agriculture, Tetra Pak International S.A., 486 p.

Toldrá, F., Hui, Y. H., Astiasarán, I., Sebranek, J. G., Talon, R. 2014. Handbook of Fermented Meat and Poultry. Second Edition. John Wiley & Sons, Ltd, Chichester, UK. doi: 10.1002/9781118522653.ch53, 534p

Assessment:

The assessment of the theoretical component will be accomplished through a written examination including short answer / closed ended questions, multiple-choice questions (MCQ), true and false, missing words / incomplete sentences and of constructed-response questions (CRQs) or open-ended questions.

The practical component will be assessed as follows through continuous assessment throughout the practical classes, including: i. Verification through individual execution records (attendance sheet). ii. Completion of formative exercises during the class period according to the demonstrated theme (50% of the practical assessment). iii. Quick mini-tests with short-answer questions (short response, multiple choice, true or false) (50% of the practical assessment).

The student evaluation is also important to assess the efficiency of the teaching-learning methodologies, in compliance with the UC objectives, and to allow future adequate adjustments on the teaching methodologies and/or on the assessment of student's knowledge and skills.

When, for justifiable reasons and following the exceptions defined in the law, it is not possible to carry out the continuous practical assessment, students will have to take a practical exam of all the material taught in the practical classes.

The final classification is obtained using the formula: $CF = 0,7 T + 0,3 P$