

TECHNOLOGY OF ANIMAL PRODUCTS

Study Programme: MIMV **Curricular Year:** 5th **Semester:** 10th **Compulsory** **Credits:** 4.5 ECTS

Lecturer(s): Maria João Fraqueza (CCP, R), Cristina Mateus Alfaia, Teresa Semedo Lemsaddek

1. Contact hours:

Lectures - 26h Practicals - 26h Total 56h

2. Objectives: The study and the knowledge of the operations and processes of food engineering. The study of the technological processes of transformation of animal origin products aims the preparation of students for future areas of work such as the Public Health or the collaboration with other professional areas of the food technology.

3. Programme:

Theoretic - An introduction to the study of meat and meat products. Meat consumption on EU and in world. Slaughterhouses equipment and by-products utilization. Maturation of meat. Development of sensory quality. Defect and meat spoilage. Carcasses classification. Deboning and classification of meat pieces. Refrigeration and freezing of carcasses and meat. Meat processing. By-products. Introduction to the study of poultry meat and poultry products. Introduction to dairy products technology. Milk consumption on EU and in world. Heat treatment of milk and distribution. Dairy technology: butter, fermented milks and ice-creams; condensed, evaporated and dry milk. Cheeses technology. By-products. Introduction fish and seafood technology. Fish processing. An introduction to honey products technology and quality.

Practical – Pork carcass deboning and meat cuts. Meat products technology. Milk and dairy technology: cream, butter, cheeses and fermented milk (yoghurt). Fish products technology. Establishment of a HACCP plan applied to a meat product. Quality and safety control of food.

4. Bibliography:

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](https://doi.org/10.2174/97816810826771160101), ISBN: 978-1-68108-267-7, ISBN: 978-1-68108-268-4. pp. 249-317.

Mikkola, H. 2017. *Future Foods*. EditorIntech, Rijeka, Croatia. Pp. DOI: 10.5772/65132 ISBN: 978-953-51-3552-4, 181p. <https://www.intechopen.com/books/future-foods>

Mortimore, S. & Wallace, C. (2013). *HACCP: a Practical Approach*. Practical Approaches to Food Control and Food Quality Series. Springer, London, U.K.

Multon, J.L. (1992). *Additifs & Auxiliaires de Fabrication dans les Industries Agro-Alimentaires*. Ed. Technique & Documentation – Lavoisier, Paris, France.

Robertson, G. L. 2012. *Food Packaging: Principles and Practice*. Third Edition. CRC Press Taylor and Francis Group. London, ISBN 9781439862414 - CAT# K12892, 687p.

Tetrapack 2024. *Dairy Processing Handbook*. Technology, Engineering, Agriculture, Tetra Pak International S.A. ISBN: 9789176111321, 486 p.

Toldra, F. (2010). *Handbook of Meat Processing*. Edited by Fidel Toldra, Wiley-Blackwell. ISBN: 978-0-8138-2182-5, 584p.

Toldra, F. , Hui, Y. H., Astiasaran, I., Sebranek, J. & Talon, R. (2014). *Handbook of Fermented Meat and Poultry*. 2nd Edition. Edited by Fidel Toldra, Y. H., Hui, I. Astiasaran, J. Sebranek & R. Talon, Wiley-Blackwell. 528 pages

5. Assessment:

The students' knowledge is evaluated weekly with little tests and reports about practical topics (30%) and with a written final examination (70%) about theoretical subjects.