Course Unit	Meat Science			Field of study	Animal Science								
Master in	Technology and Animal Science			School	School of Agriculture								
Academic Year	2021/2022	Year of study	1	Level	2-1	ECTS credits	6.0						
Type	Semestral	Semester	2	Code	5026-453-1202-00-21								
Workload (hours)	162	Contact hours	T 30	TP -	PL 18	TC 8	S 4	E -	OT 20	O -			

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tuturial; O - Other

Name(s) of lecturer(s): Alfredo Jorge Costa Teixeira

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. At the end of the unit curriculum the student should be able to: Awareness of the role of meat and meat products in the diet of most companies today.
2. Increase in interest in improving the use of protein from meat, through the proper use of various methods and procedures.
3. Develop expertise in all aspects of the industry production of fresh and processed, as it to quality control.

Prerequisites

Before the course unit the learner is expected to be able to:
1. Students should have knowledge of biochemistry, microbiology, hygiene and health
2. Knowledge of food technology and quality control and food safety.

Course contents

Chemistry of animal tissues (proteins, fats, carbohydrates, inorganic compounds and water). Structure of muscle. The operations of killing and quality: DFD meat, PSE. Rigor mortis, rigor and thawing of criochoque. Pigmentation of the meat. Preservation of fresh meat. Processed meats (cured products and products processed by heat). Diagrams of manufacture. Microorganisms with an interest in Food Technology.

Course contents (extended version)

1. Chemistry of animal tissues
   - Protein, lipids, carbon hydrates
2. Fundamental unit of meat study. Color, pH and instrumental hardness
3. Muscle function and post-mortem changes. Rigor Mortis. Cold shortness. DFD and PSE meat
4. Meat preservation. Refrigeration and frozen. Dehydration. Irradiation. Chemical preservation
5. Meat transformation
6. Practice 2. Security rules and equipment at slaughter house
7. Practice 3. Techniques of use of knives
8. Practice 4. Carcass and mest quality (color, pH, joint procedure and instrumental hardness)
9. Practice 5. Carcass dissection
10. Practice 6. Water holding capacity, protein and fat contents
11. Practice 7. Regional sausages fabrication "alheiras"
12. Practice 8. Meat regional sausages fabrication
13. Practice 9. York ham and patés fabrication
14. Practice 10. Ham cure

Recommended reading

1. Savell, J. W. and Smith, G. C. , 1998. Meat Science. Laboratory Manual. American Press.
2. Warriss, P. D. , 2000. Meat science. An introductory text. CABI Publishing, Oxford, Reino Unido, 310 pp.
3. Price, J. F. e Schweigert, B. S. 1994. Ciencia de la carne y de los productos cárnicos. 2ª Edição, Editorial Acribia, Saragoça, Espanha, 592 pp.
4. Swatland, H. J. , 2000. Meat cuts and muscle foods. Nottingham, University Press. Vários, 2005.
5. Vários, 2005. Estandarización de las metodologias para evaluar la calidad del producto (animal vivo, canal, carne y grasa) en los rumiantes. Monografia INIA: Série Ganadera, nº3.

Teaching and learning methods

The teaching of theoretical and practical. Lessons from the field, laboratory, films, slides and study tours. Availability of working papers on e-learning platform. No presence in the hours, the students will perform a work of quality analysis of various food products. In the end, the student must produce a report.

Assessment methods

1. - Practical work – 50% (3. 0 ECTS). - (Regular, Student Worker) (Final, Supplementary, Special)
2. Final closed exam – 50% (3. 0 ECTS). - (Regular, Student Worker) (Final, Special)

Language of instruction

Portuguese

Electronic validation

Alfredo Jorge Costa Teixeira	Marieta Amélia Martins Carvalho	Alfredo Jorge Costa Teixeira	Ramiro Corujeira Valentim
29-11-2021	02-12-2021	03-12-2021	07-12-2021