Course Unit	Innovative Technologies in Animal Science			Field of study	Animal Science		
Master in	Technology and Animal Science			School	School of Agriculture		
Academic Year	2024/2025	Year of study	1	Level	2-1	ECTS credits	6.0
Type	Semestral	Semester	2	Code	5026-810-1204-00-24		

Workload (hours)	162	Contact hours	T -	TP -	PL -	TC -	S -	E -	OT -	O -

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

Name(s) of lecturer(s): Alfredo Jorge Costa Teixeira, Sandra Sofia Quinteiro Rodrigues

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. Recognize and use the main computational tools in animal production
2. Using the internet in concrete work situations
3. Apply methods and technologies to current management practices
4. Implement and use online technologies in slaughterhouses, cutting rooms, product processing industries

Prerequisites

Not applicable

Course contents

Introduction to innovative technologies in animal science; Current technology applications; Intelligent systems and internet; Electronic identification; Automation in milking; Food automation; Health and diagnosis; Reproductive performances; Environmental control and animal welfare; Advanced non-destructive carcass and meat evaluation techniques; Technology applied to obtaining processed animal products

Course contents (extended version)

1. Introduction to innovative technologies in animal science
2. Current technology applications
3. Breeding and genetics
4. Computer and internet usage
5. Electronic identification
6. Milking automation
7. Feeding automation
8. Health observation
9. Reproductive performances
10. Barn environmental control
11. Advanced non-destructive carcass and meat evaluation techniques
12. Application of innovative technology in the production of processed animal products

Recommended reading

1. Serap Göncü, Cahit Güngör (2018). The Innovative Techniques in Animal Husbandry. IntechOpen
2. Cristiane Gonçalves Titto, Roberta Ariboni Brandi (2021). Coletânea Bem-estar Animal, Inovação e Tecnologia: Atualidades. Faculdade de Zootecnia e Engenharia de Alimentos da Universidade de São Paulo
3. Bases bibliográficas online como a ScienceDirect, MDPI e outras

Teaching and learning methods

Expository theoretical and practical application classes. Discussion of scientific articles. Video viewing. Field trips. Seminars and workshops. Preparation of a report.

Assessment methods

1. Continuous evaluation - (Regular, Student Worker) (Final)
   - Reports and Guides - 50%
   - Final Written Exam - 50% (Minimum grade 8)
2. Final evaluation - (Regular, Student Worker) (Final, Supplementary, Special)
   - Final Written Exam - 100%

Language of instruction

Portuguese, with additional English support for foreign students.

Electronic validation

Alfredo Jorge Costa Teixeira, Sandra Sofia Quinteiro Rodrigues	Ramiro Corujeira Valentim	Alfredo Jorge Costa Teixeira	Hélder Miranda Pires Quintas
17-12-2024	17-12-2024	18-12-2024	18-12-2024