

Course Unit	Sustainable Animal Husbandry		Field of study	Agricultural and Animal Production	
Master in	Agroecology		School	School of Agriculture	
Academic Year	2023/2024	Year of study	1	Level	2-1
Type	Semestral	Semester	1	ECTS credits	6.0
			Code	6348-747-1105-00-23	
Workload (hours)	162	Contact hours	T 30	TP -	PL 30
			TC -	S -	E -
			OT 4	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) Marieta Amélia Martins Carvalho, Sância Maria Afonso Pires

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Know the characteristics of indigenous / exotic breeds and relate them with the various farming systems of the major livestock, domesticated / wild species explored.
2. Know how to implement best managing techniques for food and reproductive, for the sustainable production, involving the main problems and the economic and social aspects of the country and the world.
3. Be able to design, implement and manage various types of exploitation of major animal species. Namely producing quality products of animal origin, at reduced costs.
4. Know the specific system of traceability of food products of animal origin and its importance in food safety. Knowing and applying the standards of knowledge on organic creation animal.
5. Know the various methods of recycling animal sewage.

### Prerequisites

Before the course unit the learner is expected to be able to:  
Biology, Chemistry and Mathematics.

### Course contents

The program content includes the study of the following species of greatest economic interest : monogastric: (pigs, rabbits and birds); ruminant animals (milk and meat cattle, goats and sheep); other animal species with economic interest, and aims at enabling the students for the preview competence.

### Course contents (extended version)

1. Introduction.
2. The main national and international races.
3. Reproduction / Production.
4. Physiology and main ability.
5. Main production systems.
6. Animal housing.
  - Different types of animal housing.
  - Temperature, Humidity, Ventilation and illumination.
  - Equipment.
7. Feeding.
  - Anatomy and Physiology.
  - Digestive utilization of food.
  - Feed Requirements.
  - Feeding techniques.
  - Disorders associated with nutrition.
8. Sanitary Prevention.
  - Supervision.
  - Isolation.
  - General standard rules for prophylaxis.
  - General norms of prophylaxis.
9. Farm Managing and planning.
10. Behaviour.
11. Organic production.
12. Industries to production of meat, milk and dairy products, honey, eggs, skins, fur, feathers.
13. National and UE legislation.

### Recommended reading

1. KÜHNEMANN, Helmut, 2004. A criação biológica: Aves de capoeira, carneiros, cabras e abelhas. Coleção Euroagro. Publicações Europa- América, 208 pp.
2. PHILLIPS, 2003. Principios de producción bovina. Primera Edición. Zaragoza. Editorial Acirbia, S. A. , 350 pp.
3. ALVES, CP. C. ; FERRAND, N. ; HACKLANDER (Eds. ), 2008. Lagomorph Biology. Evolution, Ecology, and Conservation. Springer. Berlin Heidelberg. New York. 400 pp
4. CARR, J. (2014). Guía práctica para el manejo del ganado porcino / John Carr. Zaragoza: Servet, D. L.
5. ROBLES, E. M. Y GALLEG0, J. C. S. (2012) Iniciación A La Apicultura. Tecnología Y Calendario. Editorial Mundi-Prensa. Madrid. 230pp - ISBN: 9788484765349

### Teaching and learning methods

Theoretical and practical lessons, using various multimedia equipment, laboratory and livestock from ESAB. The study should be continued, using the media available. The guidance track mentorship would allow the teaching and auxiliary students in the development of various activities related to curriculum unit.

### Assessment methods

1. Continuous assessment: - (Regular, Student Worker) (Final)
  - Practical Work - 50% (Practical Work (50%, 3 ECTS). The note must be >9, 5 points.)
  - Final Written Exam - 50% (A written theory / practical (50%; 3, 0 ECTS). The note must be >9, 5 points.)
2. Evaluation of students and workers: - (Student Worker) (Final, Supplementary)
  - Final Written Exam - 100% (Global written exam: theoretically and practical (100%; 6, 0 ECTS).)
3. Resource evaluation: - (Regular, Student Worker) (Supplementary, Special)
  - Final Written Exam - 100% (Global written exam: theoretically and practical (100%; 6, 0 ECTS).)

Assessment methods

4. Special: - (Regular, Student Worker) (Special)  
- Final Written Exam - 100% (Global written exam: theoretically and practical (100%; 6, 0 ECTS).)

Language of instruction

1. Portuguese, with additional English support for foreign students.  
2. Spanish

Electronic validation			
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25-01-2024	25-01-2024	25-01-2024	29-01-2024

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