

## 28912 - Animal science I

### Syllabus Information

**Academic year:** 2024/25

**Subject:** 28912 - Animal science I

**Faculty / School:** 201 - Escuela Politécnica Superior

**Degree:** 583 - Degree in Rural and Agri-Food Engineering

**ECTS:** 6.0

**Year:** 2

**Semester:** First semester

**Subject type:** Compulsory

**Module:**

### 1. General information

This subject is oriented to the learning of a series of basic knowledge of animal anatomy and physiology that will allow to approach, on the one hand, the study and understanding of the production systems of animal food and animal food production systems and various aspects of livestock management that determine them

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 (<https://www.un.org/sustainabledevelopment/es/>), so that the acquisition of the learning results of the subject provides training and competence to contribute to some extent to their achievement Goal 2: Zero hunger, increase productivity and production, contribute to the maintenance of ecosystems, strengthen the capacity to adapt to climate change

Goal 9: Industry, innovation and infrastructure, modernizing infrastructure and reconvert industries to make them sustainable, using resources more efficiently

Goal 12: Responsible production and consumption, environmentally sound management of chemicals and all wastes throughout their life cycle and significantly reduce waste generation through prevention, reduction, recycling and reuse activities

### 2. Learning results

To pass this subject, the student will be able to:

Recognize the anatomical and physiological differences between monogastric animals and ruminants

Explain the characteristics of the production systems of the different livestock species of economic interest and distinguish the factors that intervene and affect them.

Assess the current situation and its particularities of each of the livestock sectors in a globalized market.

### 3. Syllabus

- 1 Introduction to Animal Production
- 2 Anatomical peculiarities of the reproductive system. Physiology of female reproduction
- 3 Anatomical and physiological peculiarities of digestion in monogastrics and ruminants
- 4 Chemical composition of foods: Proteins, carbohydrates, lipids, etc
- 5 Growth and development
- 6 Systems concepts, conditioning factors
- 7 Swine, production systems
- 8 Genetics and breeding, selection, crossbreeding
- 9 Intensive swine farm, sow management, farrowing, litter management
- 10 Systems in camping and Iberian pork
- 11 Hygiene and prophylaxis, biosecurity
- 12 Laying and meat poultry. Genetic strains
- 13 Structure and formation of the egg.
- 14 Pullet rearing and rearing
- 15 Meat poultry, broiler chickens management
- 16 Rabbits poultry

17 General breeding and feeding management  
18 Suckler cow production systems.  
19 Intensive fattening of calves: suckling and grazing calves. Handling and feeding  
20 Dairy cattle production systems  
21 Accommodations and facilities. Free stalls: classic or with cubicles.  
22 Reproduction, estrus detection, artificial insemination  
23 Dairy herd feeding  
24 Mechanical milking: equipment. Milking routine  
25 Sheep meat production systems  
26 Reproduction reproductive management of the herd  
27 Herd feeding. Lamb fattening  
Practice program  
Recognition of cattle breeds, by means of audiovisual material of the external morphology, identification and differentiation of the breeds of livestock interest

#### 4. Academic activities

##### **Participative lectures (40 hs)**

Dedicated to learning the main biological and physiological fundamentals of animals as well as the different factors that intervene and influence the production systems and processes of a farm.

##### **Practices (20 hs)**

Audiovisual material for the recognition and identification of livestock breeds will be displayed

##### **Study: (63h)**

##### **Assessment: 3h.**

#### 5. Assessment system

Students must pass a comprehensive test following the official EPS exam schedule. The assessment will consist of three exercises, each of them will be evaluated from 0 to 10, being: 1- written and face-to-face test; 2- presentation and defense of a farm survey work and 3- recognition and identification test of different breeds of animals. The final grade will correspond proportionally to 70 %, 20 % and 10 % respectively

1- The written test will consist of multiple-choice questions (multiple-choice type) with which it is intended to measure the ability to relate, interpret, evaluate, extrapolate, etc., the knowledge acquired. This test must be passed with a grade greater than or equal to 5, otherwise the subject will be considered failed and the option of averaging with the grades of the remaining exercises will be considered

2- Recognition and identification of different breeds of production animals and animals of economic interest from a series of images projected on the screen.

The success rates for the subject in the last three years are: 2019/20: 60,00%; 2020/21: 55,00%; 2021/22: 65,20%

#### 6. Sustainable Development Goals

2 - Zero Hunger  
9 - Industry, Innovation and Infrastructure  
12 - Responsible Production and Consumption