

## 28912 - Animal science I

### Información del Plan Docente

<b>Academic Year</b>	2016/17
<b>Academic center</b>	201 - Escuela Politécnica Superior
<b>Degree</b>	437 - Degree in Rural and Agri-Food Engineering
<b>ECTS</b>	6.0
<b>Course</b>	2
<b>Period</b>	Half-yearly
<b>Subject Type</b>	Compulsory
<b>Module</b>	---

### **1.Basic info**

#### **1.1.Recommendations to take this course**

#### **1.2.Activities and key dates for the course**

### **2.Initiation**

#### **2.1.Learning outcomes that define the subject**

#### **2.2.Introduction**

### **3.Context and competences**

#### **3.1.Goals**

#### **3.2.Context and meaning of the subject in the degree**

#### **3.3.Competences**

#### **3.4.Importance of learning outcomes**

### **4.Evaluation**

### **5.Activities and resources**

#### **5.1.General methodological presentation**

**The designed learning process is based on the following subject:**

The issue is oriented basic and general knowledge, and then the activities proposed focus on the instruction and learning of the main biological and physiological animals knowledge and factors involved and operating systems and production processes of a farm

For this reason, the overview of the knowledge acquired in lectures participatory, is complemented by practical activity by

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viewing audiovisual material, as well as seminars and a visit to a cattle fair or feed mill performing a tutored work where the student must demonstrate their ability to work in a team and explain and defend the report on issues related to the subject it was also raised. This report should be prepared following the guidelines and the format that will be marked in the course syllabus at the beginning of course

To better track the learning process will encourage students to use the tutorials through various systems and methods: conventional tutorials and more specific tutorials related to practical work.

### 5.2.Learning activities

**The program that the student is offered to help you achieve the expected results includes the following activities**

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Participatory Lectures: 40 hours per student.

Lab where audiovisual material is displayed for the recognition and identification of livestock breeds: 10 hours student.

Seminars for monitoring the progress of tutored work: 5 hours student.

View a livestock fair or feed mill: 5 hours student.

### 5.3.Program

Section I: Introduction

Introduction to Animal Production. History. Economic and social importance

Section II: Basic knowledge

Anatomical features of reproductive system. Basic aspects of reproductive physiology of the female. Oestrous cycle and hormones.

Anatomical and physiological characteristics of the digestion in monogastric and ruminant

Chemical composition of foodstuff: proteins, carbohydrates, lipids. Forages and concentrates

Growth and development. Growth curves. Importance on meat production and carcasses

Basics features of systems. Determining factors. Classification of operating systems. Common Agricultural Policy

Section III: Pig production

Situation of the pig sector. Livestock census and productions. Organization pig sector. Free or integrated farms. Systems: intensive, outdoor, Iberian pigs

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Genetics improvement. Breeding programs: selection, crossbreeding. Paternal and maternal lines

Structure of intensive pig farm. Management of reproduction, sow at birth and litter

Outdoor pigs holdings. Iberian pig: production and feeding system

Hygiene and prophylaxis. Cleaning, disinfection. Biosecurity.

### Section IV: Poultry production

Situation of the laying hens and meat sector. Livestock census and productions.

and genetic stocks "hybrid" business. Structure and egg formation.

Breeding and rearing pullet. Farms ground or battery.

Poultry meat. Livestock census and productions. Production of chickens: "broiler". General management

### Section V: Cunicultura

Situation of the rabbit meat sector. Livestock census and productions.

Semi-intensive and intensive systems. General handling of food and reproduction

### Section VI: Beef Cattle

Situation of production of beef sector. Livestock census and productions. Production systems in dairy cows.

Intensive fattening calves. Feeding suckling calves and calves fed calves. Calves mamones: handling and feeding: milk substitutes.

Calves fed calves. Management and intensive feeding with feed

### Section VII: Dairy Cattle

Situation of the dairy cattle sector. milk quota. Livestock census and productions. Spain wet and dry.

Accommodation and facilities. freestalls: classic or cubicles.

Reproduction goals. Heat detection. Insemination: best time

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Feeding dairy herd at different stages of lactation

Milking equipment. Milking robots. Milking routine

Section VIII: Sheep beef and dairy

Situation of the sheep meat sector. Livestock census and productions. suckling lamb and "pascual" lambs

Reproduction: sexual activity and photoperiod. Organization and reproductive herd management

Feeding the flock according to the availability of forage resources

### 5.4.Planning and scheduling

semanas	Clases magistrales	Prácticas de laboratorio	Salidas de campo	Seminarios	Trabajo individual	Evaluación
1	2				5	
2	2				5	
3	4				5	
4	4				5	
5	4				5	
6	4		5		5	
7	4				5	
8	2	2			5	
9	2	2			5	
10	2	2			5	
11	2	2			5	

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12	2	2			5	
13	2			2	5	
14	2			2	5	
15	2			1	5	
16						5

### 5.5. Bibliography and recommended resources

#### Basic bibliography

Bases de la producción animal / F.P. Caravaca Rodríguez [et al.]. 1ª ed., 1ª reimpr. Sevilla Universidad de Sevilla; Córdoba: Servicio de Publicaciones, Universidad de Córdoba, 2005

Estructura, etnología, anatomía y fisiología / coordinador y director Carlos Buxadé Carbó; con la participación de 21 autores. Madrid [etc.]: Mundi-Prensa, 1995

Santolaria Blasco, Pilar. Aspectos básicos de la reproducción: mamíferos de interés zootécnico / Pilar Santolaria Blasco, Jesús Yániz Pérez de Albéniz. Zaragoza: Prensas Universitarias, 2001

Sañudo Astiz, Carlos. Manual de diferenciación racial: manual para la comprensión y diferenciación racial de las especies ganaderas (mamíferos) / Carlos Sañudo Astiz. Zaragoza: Servet, D.L. 2008

Wadsworth, J. Análisis de sistemas de producción animal. Vol. 1, Las bases conceptuales / por J. Wadsworth. Roma: Organización de las Naciones Unidas para la Agricultura y la Alimentación, 1997

#### C complementary bibliography

Alimentos y racionamiento / coordinador y director Carlos Buxadé Carbó; con la participación de 29 autores Madrid [etc.]: Mundi-Prensa, 1995

Avicultura clásica y complementaria / coordinador y director, Carlos Buxadé Carbó; con la participación de 18 autores Madrid [etc.]: Mundi-Prensa, 1995

Razas ganaderas españolas. II, Ovinas / autor y director Cayo Esteban Muñoz; proyecto y coordinación José Antonio Fernández Fernández. Madrid: El Autor: Feagas: Ministerio de Agricultura, Pesca y Alimentación, D.L. 2003

Porcinocultura intensiva y extensiva / coordinador y director, Carlos Buxadé Carbó; con la participación de 26 autores.

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Madrid [etc.]: Mundi-Prensa, 1996

Producción ovina / coordinador y director, Carlos Buxadé Carbó; con la participación de 25 autores Madrid [etc.]: Mundi-Prensa, 1996

Producción vacuna de leche y carne / coordinador y director, Carlos Buxadé Carbó; con la participación de 23 autores. Madrid [etc.]: Mundi-Prensa, 1996

Producciones cunícola y avícolas alternativas / coordinador y director Carlos Buxadé Carbó. Madrid [etc.]: Mundi-Prensa, 1996

Reproducción y alimentación / coordinador y director Carlos Buxadé Carbó; con la participación de 37 autores Madrid [etc.]: Mundi-Prensa, 1995

Sánchez Belda, Antonio. Razas ganaderas españolas. I, Bovinas / autor y director Antonio Sánchez Belda; proyecto y coordinación José Luis Ruiz Tena, José Antonio Fernández Fernández; colaboradores José Ambrona Grajera, Luciano Sánchez García. Madrid: Ministerio de Agricultura, Pesca y Alimentación [etc.], D.L. 2002

Sierra Alfranca, Isidro. Razas aragonesas de ganado / Isidro Sierra Alfranca. [Zaragoza]: Diputación General de Aragón, 1987