

28912 - Animal science I

Syllabus Information

Academic Year: 2022/23

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

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The designed learning process is based on the following subject:

The issue is oriented basic and general knowledge, and then the activities proposed a 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 viewing audiovisual material, as well as seminars and a view 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.

4.2. Learning tasks

The course includes the following learning tasks:

- Participatory Lectures: 40 hours per student.
- Laboratory 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.

4.3. Syllabus

The course will address the following topics:

- Topic I: Introduction

- Introduction to Animal Production. History. Economic and social importance
- Topic II: Basic knowledge
 - Anatomical features of the reproductive system. Basic aspects of the 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
- Topic III: Pig production
 - Situation of the pig sector. Livestock census and productions. Organization pig sector. Free or integrated farms. Systems: intensive, outdoor, Iberian pigs
 - 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.
- Topic IV: Poultry production
 - The situation of the laying hens and meat sector. Livestock census and productions.
 - 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
- Topic V: Cunicultura
 - The situation of the rabbit meat sector. Livestock census and productions.
 - Semi-intensive and intensive systems. General handling of food and reproduction
- Topic VI: Beef Cattle
 - The situation of production of the beef sector. Livestock census and productions. Production systems in dairy cows
 - Intensive fattening calves. Feeding suckling calves and calves fed calves. Nursing Calves: handling and feeding: milk substitutes.
 - Calves fed calves. Management and intensive feeding with feed
- Topic VII: Dairy Cattle
 - The situation of the dairy cattle sector. milk quota. Livestock census and productions. Spain wet and dry.
 - Accommodation and facilities. free stalls: classic or cubicles.
 - Reproduction goals. Heat detection. Insemination: best time
 - Feeding dairy herd at different stages of lactation
 - Milking equipment. Milking robots. Milking routine
- Topic VIII: Sheep beef and dairy
 - The situation of the sheepmeat 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

4.4. Course planning and calendar

Week	Lectures	Laboratory practice	Fieldwork	Seminars	Autonomous work	Evaluations
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	
12	2	2			5	
13	2			2	5	
14	2			2	5	
15	2			1	5	
16						5

4.5. Bibliography and recommended resources

- BB** 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
- BB** Estructura, etnología, anatomía y fisiología / coordinador y director Carlos Buxadé Carbó ; con la participación de 21 autores Madrid [etc.] : Mundi-Prensa, 1995
- BB** Santolaria Blasco, Pilar. Aspectos básicos de la reproducción : mamíferos de interés zootécnico / Pilar Santolaria Blasco, Jesús Yániz Pérez de Albéniz. Zaragoza : Prensas Universitarias, 2001
- BB** 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
- BB** 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
- BC** Alimentos y racionamiento / coordinador y director Carlos Buxadé Carbó ; con la participación de 29 autores. Madrid [etc.] : Mundi-Prensa, 1995
- BC** Avicultura clásica y complementaria / coordinador y director, Carlos Buxadé Carbó ; con la participación de 18 autores. Madrid [etc.] : Mundi-Prensa, 1995
- BC** Esteban Muñoz, Cayo. 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
- BC** Porcinocultura intensiva y extensiva / coordinador y director, Carlos Buxadé Carbó ; con la participación de 26 autores. Madrid [etc.] : Mundi-Prensa, 1996
- BC** Producción ovina / coordinador y director, Carlos Buxadé Carbó ; con la participación de 25 autores. Madrid [etc.] : Mundi-Prensa, 1996
- BC** Producción vacuna de leche y carne / coordinador y director, Carlos Buxadé Carbó ; con la participación de 23 autores. Madrid [etc.] : Mundi-Prensa, 1996
- BC** Producciones cunícola y avícolas alternativas / coordinador y director, Carlos Buxadé Carbó. Madrid [etc.] : Mundi-Prensa, 1996
- BC** Reproducción y alimentación / coordinador y director Carlos Buxadé Carbó ; con la participación de 37 autores. Madrid [etc.] : Mundi-Prensa, 1995
- BC** 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

BC Sierra Alfranca, Isidro. Razas aragonesas de ganado / Isidro Sierra Alfranca. [2ª ed.]. [Zaragoza] : Gobierno de Aragón, 2002

The updated recommended bibliography can be consulted in:
<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=28912>