

## 60567 - Animal production systems

### Información del Plan Docente

Academic Year	2016/17
Academic center	201 - Escuela Politécnica Superior
Degree	546 - Master in Agricultural Engineering
ECTS	9.0
Course	1
Period	Second semester
Subject Type	Compulsory
Module	---

### 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 learning process that is designed for this subject is based on the following:

The field is oriented in the teaching and learning of the main factors involved and influence farming systems and production processes of alternative animal species as well as those involved in the manufacture of compound feed. It has combined the fundamental approach of the lectures with a set of practical activities that allow better understanding of the technologies and at the same time show the applicability of the acquired knowledge. performing a tutored work where the

## 60567 - Animal production systems

student must demonstrate the ability of teamwork and develop and justify a report in the manufacture of compound feed also arises.

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**

...

Participatory Lectures

Tutored for the formulation of a compound feed

Computer room practices: 1- formulation of a feed compound and 2- formulas population growth

Lab: where will be presented and the use of materials and equipment used will be demonstrated in beekeeping

Visits (depending on budget availability) to farms and feed mill

### 5.3.Program

#### Program theory

Section 1: Introduction

1- Systems, properties, factors that determine them. Efficiencies systems

2- Management key functions. Technical management. Indexes, its importance

Section 2: Hygiene and Health

3- General concepts of pathology, diseases. Zoonosis

4- Hygiene and Health. Biosafety

Section 3: Production of fodder

5- Situation of the compound feed industry sector. Basic legislation on animal feed. Types of feed

## 60567 - Animal production systems

6- Raw materials. Nutritional values and limits of use. Cereals and by-products, vegetable protein concentrates, fibrous foods, animal fats and oils and additives

7- Production of fodder: Formulation. Processes: grinding, mixing, granulating, new technologies.

Section 4: Organic production

8- Organic production. Holistic system

Section 5: Aquaculture Production

9- Introduction, water as a means of fish production

10- Production systems and management of continental species

11- Production systems and management of marine species

Section 6: Alternative Productions

12- Production systems and management in beekeeping

13- Production systems and management in heliculture

14- Production systems and management in vermiculture

### Practices Program

Formulation work for students with Winfeed

Population growth formulas with Matlab

Exposure and recognition of beekeeping equipment

Visits: - Feed mill

- Farms and fish farms

### 5.4.Planning and scheduling

## 60567 - Animal production systems

Week	Presencial Activity	No presencial Activity	Total
1	6	9	15
2	6	9	15
3	6	9	15
4	6	9	15
5	6	9	15
6	6	9	15
7	6	9	15
8	6	9	15
9	6	9	15
10	6	9	15
11	6	9	15
12	6	9	15
13	6	9	15
14	6	9	15
15	6	9	15
Totals hours	90	135	225

### 5.5. Bibliography and recommended resources

#### Basic bibliography

## 60567 - Animal production systems

Angulo Asensio, Eduardo. Tecnología de fabricación de piensos / Eduardo Angulo Asensio y Francisco Puchal Mas .  
Lleida : Paperkite Editorial , D.L.1995

Fontanillas Pérez, Juan Carlos. El caracol y la helicultura / J. C. Fontanillas Pérez, Isabel García-Cuenca Ariati . Madrid  
[etc.] : Mundi-Prensa, 2002

Genética, patología, higiene y residuos animales / coordinador y director Carlos Buxadé Carbó ; con la participación de  
29 autores . Madrid [etc.] : Mundi-Prensa, 1995

Jean-Prost, Pierre. Apicultura : conocimiento de la abeja : manejo de la colmena / Pierre Jean-Prost, con la colaboración  
de Paul Medori . 3ª ed., rev. y ampl. / Enrique Asensio Sierra Madrid [etc.] : Mundi-Prensa, 1989

La gestión en la explotación ganadera / con la participación de 31 profesionales ; coordinador : Carlos Buxadé Carbó .  
Madrid [etc.] : Mundi-Prensa, 2003

Manual de microscopía de piensos / Roser Sala, Ana Cristina Barroeta, (coords.). - Bellaterra, Barcelona : Universitat  
Autònoma de Barcelona, 2003 + 1 CD

Padilla Alvarez, Francisco. Fundamentos de acuicultura / Francisco Padilla Alvarez . Córdoba : Servicio de  
Publicaciones, Universidad de Córdoba, 2009

Tablas FEDNA de composición y valor nutritivo de alimentos para la fabricación de piensos compuestos / [coordinada  
por] C. de Blas, G.G. Mateos y P.G. Rebollar ; en colaboración con G. Santomá, J. Méndez, R. Carabaño ; patrocinadas  
por Elanco Valquímica S.A. [y] Instituto Nacional de Investigación Tecnología Agraria y Alimentaria (INIA) . 3ª ed.  
[Madrid] : Fundación Española para el Desarrollo de la Nutrición Animal, 2010

### Complementary bibliography

Benedetti, Lorenzo. Apicultura : el individuo, la colectividad y el medio (...) / Lorenzo Benedetti. Lucilla Pieralli ; traducido  
y adaptado de la segunda edición italiana por Juan Vivanco . Barcelona : Omega, D.L. 1990

Butterfield, J. (2006). Holistic Management Handbook. Healthy Land, Healthy Profits. Island Press

Compendio de Robbins y Cotran : patología estructural y funcional / Richard N. Mitchell ... [et al.] ; ilustraciones de James  
A. Perkins ; [revisión científica, Lluís Colomo Saperas] . 8ª ed. Ámsterdam ; Barcelona ; Madrid [etc.] : Elsevier, cop. 2012

Ekarius, K. (1999). Small-scale livestock farming: a grass-based approach for health, sustainability, and profit versa press

Fellows, Peter. Tecnología del procesado de los alimentos : principios y prácticas / Peter Fellows ; traducido por  
Francisco Javier Sala Trepas . [1a. ed.] Zaragoza : Acribia, D.L. 1993

Fundación Española para el Desarrollo de la Nutrición Animal. |eCurso de especialización (9.. Influencia del procesado  
sobre el valor nutritivo de materias primas y piensos terminados : IX Curso de especialización tecnología y nutrición :  
Barcelona, 8 y 9 de noviembre de 1993 / obra colectiva y coordinada por: Paloma García Rebollar ... [et al.]. [Barcelona?]

## 60567 - Animal production systems

: FEDNA, D.L. 1993

Kay, Ronald D.. Farm management : planning, control, and implementation / Ronald D. Kay . 2nd ed. New York [etc.] : McGraw-Hill Book Company, 1986

Manual de microscopía de piensos / Roser Sala, Ana Cristina Barroeta, (coords.). Bellaterra, Barcelona : Universitat Autònoma de Barcelona, 2003 + 1 CD

Patología médica veterinaria : libro de texto para la docencia de la asignatura / edición coordinada por : Luis Eusebio Fidalgo Alvarez ... (et al.]). León : Universidad de León ; Santiago : Universidad de Santiago de Compostela ; Zaragoza : Universidad de Zaragoza, 2003

Pérez Arellano, José Luis. Manual de patología general / José Luis Pérez Arellano . 7ª ed. Ámsterdam ; Barcelona ; Madrid [etc.] : Elsevier Masson , D. L. 2013

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