Course guide
390344 - PAM - Monogastric Animal Production

Unit in charge: Barcelona School of Agri-Food and Biosystems Engineering
Teaching unit: 745 - DEAB - Department of Agri-Food Engineering and Biotechnology.

Degree: BACHELOR’S DEGREE IN AGRONOMIC SCIENCE ENGINEERING (Syllabus 2018). (Optional subject).

Academic year: 2022  ECTS Credits: 6.0  Languages: Catalan

LECTURER
Coordinating lecturer: Alvarez Del Castillo, Lorenzo

Others:

TEACHING METHODOLOGY
The methodological approach will be focused on the development of the subject on both theoretical and practical levels. Hence, the syllabus will consist on:
- Lectures (large groups). The professor will introduce the basic concepts and will seek the students involvement through case study presentations and readings aiming at relating and assimilating the basic theoretical concepts shown.
- Workshop sessions in sessions in small groups to carry out activities in the computer lab.
- Visits to investigation centres and commercial farms.
Students will have available support documents for lectures, supplementary material and references to complementary readings in Atenea.

LEARNING OBJECTIVES OF THE SUBJECT
The subject must provide the bases of avian species, pigs, rabbits and bees production. For this reason, the subject will focus on the fundamental pillars of animal production: nutritional and productive management, facilities, reproduction physiology and reproductive management, pathology, biosecurity, genetic selection and waste management for each specie. Thus, the objectives are as follows:
- Know the most common production systems in the European Union (EU). The state of the sector for each monogastric specie, as well as the most used breeds, lines and commercial hybrids related to their productive destination.
- Nutritional management according to the physiological and productive stage of each species.
- Evaluate the animal welfare conditions on a farm and have knowledge of the EU animal welfare and biosafety laws for each species.
- Be able to distinguish the reproductive cycles and their management on farms.
- Achieve basic knowledge of both quantitative and molecular animal genetics.
- Evaluate, analyze and interpret both productive and economic indices applied in the different species.
- Understand the environmental footprint of an operation, as well as the management of the generated waste.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours small group</td>
<td>20,0</td>
<td>13.33</td>
</tr>
<tr>
<td>Hours large group</td>
<td>40,0</td>
<td>26.67</td>
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</tbody>
</table>

Total learning time: 150 h
## Contents

### Monogastric farming sector

**Description:**
Sector analysis of avian species, swine, rabbits and bees

**Related activities:**
- Activity 1: Lectures

**Full-or-part-time:** 4h 30m
- Theory classes: 2h
- Self study: 2h 30m

### Poultry production

**Description:**
- Ethnology and applied genetics
- Management particularities in production and reproduction
- Housing and waste management
- Behaviour and UE legislation on animal welfare protection
- Pathologies and biosecurity

**Related activities:**
- Activity 1: Lectures
- Activity 2: Written exams
- Activity 3: Feed rationing
- Activity 4: Visiting research centers and farm facilities

**Full-or-part-time:** 63h
- Theory classes: 16h
- Practical classes: 7h
- Self study: 40h

### Swine production

**Description:**
- Ethnology and applied genetics
- Management particularities in production and reproduction of white and Iberian pigs
- Housing and waste management
- Behaviour and UE legislation on animal welfare protection
- Pathologies and biosecurity

**Related activities:**
- Activity 1: Lectures
- Activity 2: Written exams
- Activity 3: Feed rationing
- Activity 4: Visiting research centers and farm facilities

**Full-or-part-time:** 61h
- Theory classes: 12h
- Practical classes: 13h
- Self study: 36h
Rabbit production

**Description:**
Ethnology and applied genetics
Management particularities in production and reproduction
Housing
Pathologies

**Related activities:**
Activity 1: Lectures
Activity 2: Written exams

**Full-or-part-time:** 15h
Theory classes: 6h
Self study: 9h

Bee production

**Description:**
Ethology
Management particularities
Honey, royal jelly and bee propolis production
Pathologies and predators

**Related activities:**
Activity 1: Lectures
Activity 2: Written exams

**Full-or-part-time:** 4h 30m
Theory classes: 2h
Self study: 2h 30m

**ACTIVITIES**

**Activity 1: Lectures**

**Description:**
Lectures

**Full-or-part-time:** 113h
Theory classes: 38h
Self study: 75h
Activity 2: Written exams

Description:
Individual assessment consisting on two written exams on the topics covered.

Specific objectives:
Assess the theoretical learning of the subject to ensure the student has acquired the specific concepts and their associated skills.

Material:
Rubric exams.

Delivery:
The exams will take place once the corresponding theoretical topics have been covered. Each exam will account for 35% of the final grade of the subject.

Full-or-part-time: 2h
Theory classes: 2h

Activity 3: Feed rationing

Description:
In two 3-hour computer room sessions, the basis of a feed rationing program will be shown in order to design feed rations for poultry and pigs.

Material:
Feed rationing softwares

Delivery:
The student must submit a document regarding the feed rations proposed for poultry and pigs.

Full-or-part-time: 13h 30m
Laboratory classes: 6h
Self study: 7h 30m

Activity 4: Visiting research centers and farm facilities

Full-or-part-time: 21h 30m
Practical classes: 14h
Self study: 7h 30m

GRADING SYSTEM

The final grade of the subject (Nfinal) will be given by weighting the exams and assignments:
N1: two evaluation test qualification (35% each)
N2: feed rationing assignment qualification (activity 3).
N3: literature review and its oral presentation.

Nfinal=0.35 N1 + 0.15 N2 + 0.15 N3
BIBLIOGRAPHY

Basic: