

Academic Year/course: 2022/23

## 28416 - External Morphology: Morphological Assessment and Identification

### Syllabus Information

**Academic Year:** 2022/23

**Subject:** 28416 - External Morphology: Morphological Assessment and Identification

**Faculty / School:** 105 - Facultad de Veterinaria

**Degree:** 451 - Degree in Veterinary Science

**ECTS:** 3.0

**Year:**

**Semester:** First semester

**Subject Type:** Optional

**Module:**

## 1. General information

### 1.1. Aims of the course

The graduate will be able to: 1) Understand external morphology as a product of adaptation and selection to the productive environment, 2) Evaluate the morphological quality of companion and production animals, from the genetic, clinical and zootechnical view, 3) Understand the techniques and systems of animal identification and traceability.

### 1.2. Context and importance of this course in the degree

The course is in the second year, in the first semester, so students who have already had previous contact with Veterinary Sciences in general and with Zootechnics in particular will be expected to take this course. This course is aimed at deepening and broadening the concepts learned in Anatomy and Ethnology, with an essentially applied approach to the morphological assessment and identification of domestic animals.

The learning and critical evaluation of the morphological standards of the different animal breeds is an introduction to the professional reality in the veterinary clinic and in animal production, so that the course plays an important role in the training of the future veterinarian.

Contribution to Sustainable Development Goals (SDGs)

In harmony with the commitment of the University of Zaragoza to the Sustainable Development Goals (SDGs) included in the Agenda 2030 of the United Nations Organization (UN), the subject contributes to the following SDGs:

Goal 2. Zero Hunger. This subject presents the morphological assessment of domestic food animals as a tool to achieve productive and sustainable yields in animal farms.

Goal 3. Health and Welfare. The morphology of domestic animals is capable of showing the capacity and limits of adaptation of animals to the productive environment, that is, it explains the biological functioning related to animal welfare. Animal welfare is closely related to human welfare and health, as well as ecosystem health.

Goal 12. Responsible production and consumption. Animal identification is a tool that contributes to the traceability of the responsible production and keeping of domestic animals.

Goal 15 Terrestrial life and ecosystems. Domestic animals are an integral part of many ecosystems and agro-ecosystems. There is a challenge for animal production to adapt to new demands regarding animal welfare and the environment. Systems must be adapted to make them more sustainable while respecting the ecosystems where they are implemented.

### 1.3. Recommendations to take this course

It is a second year elective subject of the first semester. For an adequate learning of its contents it is necessary to have followed Embryology and Anatomy I and II and Ethnology and Animal Welfare, all of them first year subjects.

To carry out the practical activities, it is necessary to follow some safety recommendations that must be taken into account. Students have all the information available in the following links, as well as in the ADD courses for each of the subjects:

<https://veterinaria.unizar.es/estudiantes/formacion-prevencion-riesgos-y-seguridad#normas>

## 2. Learning goals

### 2.1. Competences

On successful completion of this course, students will be able to:

- ? Assess the external structure and relate it to the clinical and productive condition of domestic animals.
- ? Identify the zootechnical potential of animals according to their morphology.
- ? Issue an opinion on its genetic quality and usefulness.
- ? Advise breeders on the most advisable crosses to improve the morphology of their specimens.
- ? Advise participants in competitions and morphological exhibitions, and eventually act as a qualifying judge.
- ? Correctly identify animals and their products, in accordance with current legislation.

### 2.2. Learning goals

If students complete the course successfully, they should be able to

- Make a value judgment on the qualities and morphological defects of any important animal breed, in any domestic species.
- Know and apply the most appropriate animal identification methods in each case.

### 2.3. Importance of learning goals

- The ability to assess the suitability of the morphology of animals, based on their age, sex and usefulness, is an important auxiliary tool for veterinary clinical judgment on the health or disease status of an animal, collaborate in the numerous competitions and exhibitions of livestock and pets that are held throughout Spain, and advise breeders in their genetic improvement programs, especially where external morphology is the main selective criterion, as occurs in companion animals, which sometimes it leads to detrimental aberrations for animal welfare that it is the duty of the vet to help prevent.
- The appropriate knowledge and use of the various methods of animal identification are essential instruments for the veterinarian, in order to fulfill his tasks of guaranteeing the traceability of food intended for human consumption, safeguarding animal health, particularly in animal movements. and in the compulsory vaccination and livestock sanitation campaigns, and collaborate in the repression of the illegal transport of animals and the trafficking of protected species.
- In addition to learning and acquiring previously indicated competences, the student will be able to better understand and take advantage of other subjects that they will see throughout their studies, both in the area of ??Clinical Sciences (especially Medical Pathology and Propedeutics and Clinical Practicum), as well as in the zootechnical subjects of Genetics, and those of Integration in Animal Health and Production of the different livestock species.

## 3. Assessment (1st and 2nd call)

### 3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

The student must demonstrate that he/she has achieved the learning results foreseen in the evaluation of the different competences:

- The knowledge and understanding of the theoretical contents will be assessed with a multiple-choice exam.
- The practical skills will be evaluated with the delivery of a report of each of the practices. This report will be individual and computable in the final grade.

The evaluation criteria will be the following:

- Theoretical exam, up to 70 points out of 100.
- Individual final work, up to 20 points out of 100.
- Internship reports, up to 10 points out of 100.

To pass the exam, it is required to obtain at least 50% of the possible points for the theoretical contents (35 points out of 70). The rest of the grades will only be applied once this minimum has been reached. The course is passed with a grade equal to or higher than 5 points.

## Marking system

In accordance with RD. 1025/2003 of September 5, 2003, which establishes the European credit system and the grading system for university degrees, the student's grade will be twofold; numerical and qualitative.

0 - 4.9: FAIL

5.0 - 6.9: PASS

7,0 - 8,9: GOOD

9.0 - 10: EXCELLENT

In application of article 158 of the Statutes of the University of Zaragoza, the provisional grades of the exams will be publicly exposed for a minimum of 7 days, and students will be able to review their exams, for which the place, date and timetable foreseen for this purpose will be indicated in due time.

## Global test

For students who have not had classroom teaching at any time, the theoretical and practical knowledge will be assessed by means of a final exam that will cover all the material taught in the course: Theory, 40%, and practical, 60%. The exam will be adapted to the syllabus taught in the corresponding academic year.

For students who sit for exams other than the first one, the evaluation, assessment criteria and level of demand will be the same as in the first exam.

## 4. Methodology, learning tasks, syllabus and resources

### 4.1. Methodological overview

The learning process designed for this course is based on the following:

- Theoretical classroom classes, in which the planned program will be developed, previously known, which will be available in the Digital Teaching Ring, complemented with other teaching resources (paper documentation).
- Practical classes in classroom of morphological assessment in different animal species.
- Theoretical classes in the classroom on methods of identification and recognition of the age of animals.
- Practical session in the Equestrian Center to carry out a complete review of the specimens.
- Practical session of morphological evaluation in sheep.
- Carrying out of a final individual work on racial and/or age assessment.
- Visit to a livestock exhibition or fair.

### 4.2. Learning tasks

The program offered to the student to help him/her achieve the expected results includes the following activities:

- Theoretical classes in Classroom.
- Classroom classes of problem solving and case studies, with the participation of the students.
- Practical classes in external Equestrian Center and the SAI.
- Individual work.

### 4.3. Syllabus

#### Theoretical program

#### BLOCK MORPHOLOGY

1. External morphology: Stress and environment. Adaptation and biology of appearance. Macro and micro evolution of domestic animals.

2. Introduction to morphological evaluation. Definitions of beauty, defect, beauty and breed standard. Generalities of morphological and behavioral assessment.
3. Body regions of domestic animals, brief review of regional nomenclature.
2. Morphological evaluation of the equine: Aplombs: definition and general evaluation. Defects with respect to lines 1 and 5. Defects with respect to lines 2 and 4. Defect with respect to line 3. Variation between species.
3. Morphological evaluation of bovines and other ruminants. Linear Comparison and Scoring, usefulness and description in general and specifically in dairy cattle. Scorecards, usefulness and description.
4. Morphological evaluation of poultry and judging.
5. Morphological evaluation in companion animals.

#### IDENTIFICATION BLOCK

1. Age identification: The dental chart. Evolution and relationship with chronological and physiological age in domestic species. Other structures: hair, hooves, horns, in domestic species. Age in birds.
2. Development and age. Age determination by general and regional analysis of the animal. Signs for age determination. Shape and proportions in young and adult animals. Body development in species of heterogeneous adult weight.
3. Identification. Traceability. Definitions. Identification and traceability in livestock. Areas involved and links. From the farm to the table. Traceability standards in livestock farming in Spain. SIRENTRA. RIGA. Legislation in cattle, sheep and goats, equines and swine.

#### ANIMALS AND SPORT BLOCK

1. The horse in sport (Ad 1): Breeds and modalities. Regulations of different events: polo, show jumping, horse racing, etc.
2. Selected topics of equines or other species used in sport (Ad 2).

#### Practical program

- Practical Sheep: Sheep applied morphometry (SAI)
- Practical Visit: Livestock exhibition Technical visit
- Equine Practical: Review in equine and equine regions in riding arena
- Problem Solving and Case Studies (RPC 1): Morphology in birds
- Problem Solving and Case Studies (RPC 2): Identification systems
- Problem Solving and Case Studies (RPC 3): The horse in sport or selected topics of animals in sport.

#### 4.4. Course planning and calendar

It will be adapted to the corresponding academic calendar, with a total of 15 theoretical and 15 practical hours per student. Theoretical and practical classes will be adapted to the corresponding Academic Calendar. The visit to the corresponding exhibition/fair will depend on the annual calendar planned for this year.

This course consists of 3 blocks: Morphology, Animal Identification, and Animals in Sport. In general, to take this subject it is recommended to attend class in a participative way, and to develop a continuous work on its contents. For this purpose, books, articles and web pages will be indicated to follow and expand the contents taught in class.

The activities will be theoretical classes taught from 3 to 5 pm, and practical classes in the classroom from 2 to 6 pm, and in some cases from 3 to 7 pm. The practical activities of this course are of three basic types:

- Demonstration of the usefulness and handling of the main methods of animal identification.
- Assessment of morphological qualities and defects in different animal species. This activity will be carried out at different levels: in the classroom, in the ADD, in an equestrian center or the SAI.
- Individual work will be delivered in pdf format and sent to the teaching ring.

In addition, a visit to a livestock fair/exhibition related to the species covered in class will be planned.

The dates of classes and exams of the course are described in detail in the Web of the Faculty of Veterinary Medicine (link: [Web de la Facultad de Veterinaria](http://veterinaria.unizar.es/gradoveterinaria/)). The Faculty of Veterinary Medicine (link: <http://veterinaria.unizar.es/gradoveterinaria/>). This link is updated at the beginning of each academic year.

#### List of training activities based on 3.0 credits (30 classroom hours)

Activity	Hours theory	Horus	Practice group size	Professor
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		practice		
<b>BLOCK MORPHOLOGY</b>	<b>8</b>	<b>3</b>		
Morphology 1	2	---	---	GML
Morphology 2	1	---	---	GML
Morphology 3	1	1	---	GML
Morphology 4	2	2	30	GML
Morphology 5	2	---	---	GML
<b>IDENTIFICATION BLOCK</b>	<b>6</b>	<b>2</b>		
Id 1	4	1	10	GML
Id 2	2	1	30	AA
<b>ANIMALS AND SPORT BLOCK</b>	<b>4</b>	<b>1</b>		
Ad 1	2	---	---	GM
Ad 2	2	1	---	GML
Livestock fair	---	4	20	GML
<b>TOTAL</b>	<b>18 (64%)</b>	<b>10 (36%)</b>	---	---

#### 4.5. Bibliography and recommended resources

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=28416>