

## 28406 - Embryology and Anatomy II

### Syllabus Information

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**Academic Year:** 2019/20

**Subject:** 28406 - Embryology and Anatomy II

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

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

**ECTS:** 7.0

**Year:** 1

**Semester:** Second semester

**Subject Type:** Basic Education

**Module:** ---

## 1.General information

### 1.1.Aims of the course

The aims of this course are to:

1. Acquire scientific and professional nomenclature and manual ability for application in subsequent medical-surgical practices;
2. Be a basis for studying other clinical or pre-clinical subjects and for correlating morphological and functional data;
3. Be a basic part for the study and diagnosis of any clinical circumstance;
4. Be a basic part for solving functional or pathological problems;
5. Develop communication and observation skills and, therefore, to increase their intelligence and critical capacity.

The anatomy adopts two main forms of appreciation or approach, of which the first is the descriptive, with a systematic character, which is the most appropriate scheme to organize the agenda of the theoretical classes; the second, more to organize the programming and contents of the practical classes, consists in the comparative treatment of the structures together with their topographical relationships in the different anatomical regions, and deals with the applied aspects that such knowledge confers on the different projections that anatomy has towards other sciences.

The aims of Veterinary Embryology are to:

1. help to understand the organization of the living animal throughout its life cycle, as well as the interrelationship of the multiple animals. structures that study the rest of the disciplines of Anatomy;
2. Lead to know the ontogenetic history of all the ontogenetic animals, especially domestic ones, from fertilization to death;
3. Help to understand, and then to be able to explain the anomalies presented by neonates, as well as their possible aetiology and possible consequences;
4. Acquire a sufficiently solid base to be able to cope more easily with other materials.

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

The subject, together with Embryology and Anatomy I of the first semester of the first year, aims to provide the basic knowledge of embryology and anatomy of domestic animals, included in the list of competencies to be acquired by the Graduate in Veterinary Medicine (Order ECI/33/2008), and which appear in the degree report of this degree. The acquisition of competencies in Morphology, Topography and Structure of the organs and systems (Code: FBC05), and in Otogenetic development, congenital anomalies and embryology applications. (Code: FBC09)

### 1.3.Recommendations to take this course

Although there are no specific regulatory requirements, in addition to training in health science subjects, it is advisable to have general knowledge of the structure of domestic mammals and to be, to some extent, familiar with their management and functional activity. A sufficient knowledge of English is desirable to facilitate broad access to bibliographic sources

## 2.Learning goals

### 2.1.Competences

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

1. Internalize, evaluate and use the morphology, topography and structure of the organs and systems in the activities of the course. veterinarian.
2. Understand and integrate the operation and regulation of body systems and appliances necessary for the performance of the profession.
3. Assimilate, interpret and make use of knowledge related to ontogenetic development, congenital anomalies and applications of embryology in their professional work.

## 2.2.Learning goals

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

1. Identify and describe the main structural and functional elements of the heart and of the respiratory, digestive and genitourinary apparatuses, of the endocrine glands and of the central nervous system and the organs of the nervous system.
2. Describe and understand the embryonic development of the structures belonging to the heart and to the senses of domestic animals respiratory, digestive and genitourinary systems, endocrine glands, central nervous system and sense organs of and to explain the embryonic origin of their congenital anomalies.

## 2.3.Importance of learning goals

The knowledge of Morphology, together with Physiology, constitute the fundamental base on which the formation of the veterinarian is based, being more useful and necessary since this learning is closely linked and oriented to the needs imposed by the pathology, the clinic and the surgery. Specifically, Anatomy and Embryology constitute an essential part of this base, as they serve as a vertebrating element of the structural and functional knowledge of organisms and facilitate the subsequent learning of other subjects such as Pathological Anatomy, Clinical Propaedeutics, Clinical Medicine and Surgery, Radiology and Diagnostic Imaging, Obstetrics and Reproduction, Hygiene and Food Inspection and others.

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

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

#### Assessment activities

1. Theoretical Exam (1/3 of the final grade).

Design: online exam in a computer room. It includes a number of 20 multiple-choice questions, with or without images, taken at random from a pre-established file. Consequently, each student will answer a personalized exam. Each question has several possible answers, of which one is true, others are false and one is blank. The answers correct answers add up to the score assigned to them, incorrectly answered answers subtract 1/3 from the score assigned to a question answered correctly; unanswered or blank questions do not score.

In order to overcome it, it is necessary to obtain at least half of the score.

1. Practical Exam (1/3 of the final grade).

Design: in the dissection room, using the osteological material studied and the animals dissected in the course of the practices, each student is proposed:

1. the location and identification, during 8 minutes, with the help of all the bibliographic material you want to use, of four elements and/or details of the bone and joint structure, as well as muscles, nerves, vessels and other elements related to, or delimited by the head, heart and respiratory, digestive and genitourinary systems, the endocrine glands and the central nervous system and sensory organs of domestic animals.
2. a brief 5-minute descriptive exposition of these four elements and/or details, in accordance with the anatomical terminology.

In order to overcome it, it is necessary to obtain at least half of the score.

1. Practical work (1/3 of the final grade)

Design: preparation of one paper for each practice group (or other alternative grouping considered appropriate), the result of which will be demonstrated by the delivery of anatomical preparations and a digital medium (usually CD or DVD) containing a document in .doc format (whose length, format and other particularities will be detailed in the page Moodle2 of the subject) and as many static and/or moving images as considered necessary to illustrate the work done. In addition, the work will be defended publicly by one of the students of the group chosen randomly. The maximum exposure time will be detailed in the rules published by the subject on their Moodle2 page.

Works will address specific and complementary aspects of osteology and dissection not dealt with in the regulated

programming of the practices. The academic staff will propose the topics of the works and supervise the work of the groups, showing them the procedures to follow to analyse and study the assigned material and guiding them in the search of information and in its assessment.

it is necessary to obtain at least half of the score.

It is necessary to pass the three evaluation activities separately in order to pass the subject.

### **Tests for students who are not present or those who present themselves in other calls other than the first one.**

Theoretical Examination.

Design: online exam in a computer room. It includes a certain number of multiple choice questions, with or without images, extracted at random from a pre-established file. Consequently, each student will take a personalized exam. Each question has several possible answers, of which one is right, others are false and one is blank. Correct answers add up the score assigned to them, incorrectly answered answers subtract 1/3 of the score assigned to a question answered correctly; unanswered or blank questions do not score.

In order to overcome it, it is necessary to obtain at least half of the score.

For the practical work as well as for the practical examination, the condition of passed will be conserved if so happens in any previous call.

### **Valuation criteria and requirement levels**

The student will demonstrate the ability to locate, name, and recognize the elements and details of the heart, as well as the respiratory, digestive, and genitourinary systems, the endocrine glands, and the central nervous system and sensory organs of domestic animals.

Their ability to identify the embryonic development of heart, respiratory, digestive and genitourinary structures, endocrine glands and the central nervous system and sensory organs of domestic animals, and explain the embryonic origin of their congenital anomalies, will also be tested.

### **Marking system:**

According to the national regulation Law 1025/2003, 5th of September which lays down the European system of credits and marking system for the university degree.

0-4,9: FAIL.

5,0-6,9: PASS

7,0-8,9: GOOD (NT).

9,0-10: EXCELLENT (SB).

As the article 158 of the Statutes of the University of Zaragoza lays down, provisional grades will be displayed at least for 7 days and students will be able to review them on the date, time and place provided for that purpose

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

### **4.1.Methodological overview**

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented.

Students are expected to actively participate in class sessions throughout the whole semester.

Classroom materials will be available via Moodle. These include a repository of lecture notes used in class, the course syllabus, as well as other course-specific learning materials, including a discussion forum.

Further information regarding the course will be provided on the first day of class.

### **4.2.Learning tasks**

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

The learning of anatomy is carried out according to two main forms of content organization: the first is the descriptive one, with a systematic character, which is the most appropriate scheme to organize the syllabus of the theoretical classes, masterly and taught in the classroom; the second one, more appropriate to organize the programming and contents of the practical classes, consists of the topographical and regional approximation of anatomical structures, together with their relationships, carrying it out in the dissection room.

This is a 7.0 ECTS course organized as follows:

**Theoretical teaching 50%:** 35 contact hours' participative lecture, distributed in 35/1 hour sessions.

<b>Type of activity</b>	<b>Place</b>	<b>Schedule</b>	<b>Schedule</b>	<b>Students</b>
Lectures groups 1-6 (35 contact hours)	Classroom	3 sessions/week (35 sessions)	1 hour/session	80
Lectures groups 7-12 (35 contact hours)	Classroom	3 sessions/week (35 sessions)	1 hour/session	80

**Practical teaching 45%:** 31.5 contact dissection hours, distributed in 21 sessions of 1.5 hours

**Tutored preparation work practices 5%:** 3.5 hours, including specific instruction of the awarded subject of dissection, performance / exhibition with fellow dissecting table.

Type of activity	Place	Schedule	Schedule	Studen
Supervised work Instruction dissection (3,5 contact hours in rotational mode)	Dissection Room	2 sessions/week	2 hour/session	12
Groups 7 Practical 12 (31,5 contact hours)	Dissection Room	2 sessions/week	1,5 hour/session	80
Groups 1 Practical 6 (31,5 contact hours)	Dissection Room	2 sessions/week	1,5 hour/session	80

**Development of an anatomical work** by each group of practices, whose result will be demonstrated delivering an anatomical preparations and a digital device (usually: CD or DVD) containing a .doc formatted document (whose extension, format and other characteristics will be detailed on the Moodle2 on-line page of the course) and as many static and / or moving images as necessary to properly illustrate the work. On the other hand, public defense of the work will be carried out by a randomly chosen student of the group of practices, according to the rules published on the Moodle2 website. Anatomical work will focus on specific and complementary aspects of osteology and/or dissection in formal programming practices. Teachers will propose topics for that work and will supervise them, showing procedures in order to analyze and study the supplied material and helping in the search for information and assessment.

### 4.3.Syllabus

Embryonic origin, parts, situation, relationships, functional structure, vascularisation, innervation:

- Respiratory System.
- Digestive system.
- Head.
- Urogenital apparatus.
- Central nervous system and sense organs.

### 4.4.Course planning and calendar

Schedule sessions and presentation of works

The dates and key milestones of the subject are described in detail, along with other subjects, on the website of the Faculty of Veterinary Medicine (link: <http://veterinaria.unizar.es/gradoveterinaria/>). This link will be updated at the beginning of each academic year and will be complemented with detailed information on the Moodle2 page.

Theoretical classes: from the first school day in February to the last school day in May. Practical classes: since its inception in February to the last school day in May.

Final date for submission of groupal anatomical work: May (dates on Moodle2 website).

Review of submitted anatomical work: May (dates on Moodle2 website).

Practical exam: May or June (dates on Moodle2 website).

Theoretical exam: June (1st call) and September (2nd call)

### 4.5.Bibliography and recommended resources

<http://psfunizar7.unizar.es/br13/egAsignaturas.php?codigo=28406>