

ACADEMIC YEAR 2023/2024

General information	
Academic subject	<i>Histology and Applied Anatomy of Domestic Animals</i> integrated exam of ZOOLOGY, HISTOLOGY AND ANATOMY
Degree course	Animal Sciences L38
Academic Year	I year
European Credit Transfer and Accumulation System (ECTS)	8
Language	Italian
Academic calendar (starting and ending date)	I semester: 20/01/2023 - 26/01/2024
Attendance	Mandatory

Professor/ Lecturer	
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Department and address	Campus of Veterinary Medicine, S.P. 62 to Casamassima km. 3, 70010 Valenzano (BA)
Virtual headquarters	Microsoft Teams platform if necessary (Teams Code: ckcp9w1)
Tutoring (time and day)	Wednesday 15:30-17:30; Friday 11:30-13:30

Syllabus	
Learning Objectives	The teaching course of Histology and Applied Anatomy of Domestic Animals provides basic elements regarding the comparative macro- and microscopic anatomy of domestic animals taught from an applicative perspective.
Course prerequisites	The students must have passed the examination of Structural and Metabolic Biochemistry.
Contents	<p>Introduction: aims of the course and teaching modalities. Criteria of evaluation of knowledge, competence and skill.</p> <p>Histology: epithelial tissues; connective tissue proper; specialised connective tissues; muscle tissues; nervous tissue.</p> <p>Anatomical terminology. Body regions. Osteology: general structure of skeletal bones; axial skeleton; appendicular skeleton. Arthrology: classification of joints. Myology: structure of skeletal muscles; muscles of the neck, thorax, abdomen, shoulder, thoracic limb, pelvis, pelvic limb. Integumentary apparatus: skin and epidermal derivatives. Splanchnology: body cavities and serous membranes. Digestive system: mouth; pharynx; oesophagus; stomach; intestine; liver; pancreas. Respiratory system: nasal cavities; bronchi; lungs; pleurae. Blood circulatory system: heart; arteriae; venae. Lymphatic system: haemolymph nodes; spleen; thymus; bone marrow. Urinary system: kidneys; ureters; urinary bladder; and urethra. Male reproductive system: testis; epididymis; vas deferens; spermatic cord; scrotum; accessory glands; penis. Female reproductive system: ovary; oviducts; uterus; vagina; vulva; clitoris. Endocrine system: hypophysis; pineal gland; thyroid gland; parathyroid glands; adrenal glands; pancreas. Elements of Central Nervous System: spinal cord; brain. Elements of Peripheral and Autonomous Nervous Systems. Sense organs.</p> <p>Practical activities – Use of light microscope and observations of histological sections. Observation and group-study of skeletal elements, joints, muscles and visceral organs from animal species covered by the course (equine, bovine, small</p>

	ruminants, swine, dog and cat). Videos, plastic anatomical models and dissections of small ruminant carcasses will be used as didactic subsidies.
Books and bibliography	<ul style="list-style-type: none"> • Bortolami - Callegari - Beghelli - Anatomia e fisiologia degli animali domestici. Edagricole. • König-Liebich – Anatomia degli Animali Domestici. Testo-Atlante a Colori. Piccin. • Pelagalli-Botte. Anatomia veterinaria sistematica e comparata. Edi-Ermes.
Additional materials	<ul style="list-style-type: none"> • Merighi – Anatomia applicata e Topografia regionale veterinaria. • Lecture notes and ppt slides provided by the teachers.

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
200	56	10	134
ECTS			
8	7	1	
Teaching strategy	Frontal lectures will be carried out through Powerpoint presentations in classrooms provided with multimedia devices. Practical lectures will be carried out partly using video tutorial produced by the teachers or available in the web, and partly using original or plastic animal models available in the anatomy room. Organs taken from local slaughterhouses might also be used. The course is not delivered in e-learning mode (with the exception of health emergency).		
Expected learning outcomes			
Knowledge and understanding on:	<ul style="list-style-type: none"> ○ Investigation techniques used in morphological sciences. ○ Basic elements of macro- and microscopical anatomy of domestic animals. 		
Applying knowledge and understanding on:	<ul style="list-style-type: none"> ○ Identification of animal tissues. ○ Identification of skeletal elements. ○ Identification of animal organs based on their macroscopical appearance and microscopical structure. 		
Soft skills	<ul style="list-style-type: none"> • <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> ○ Students will be able to correctly identify skeletal elements and organs belonging to animal species covered by the course. • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Students will be familiar with anatomical terminology. To this aim, students will be encouraged to describe anatomical structures in the framework of flipped classroom sessions. • <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ In order to stimulate student's autonomy, group-study sessions will be organized. This will eventually help students autonomously study the anatomy of animal species not covered by the course. 		

Assessment and feedback	
Methods of assessment	The exam will involve two optional ongoing tests, the first one on Histology (oral) and the second one on Locomotor and Nervous Systems (multiple-choice test). During the first tests, students will be asked to identify three tissues. The second



	test will be based on multiple-choice tests. The final examination will involve the identification and description of animal organs and will last about 30 minutes. The ability to correctly describe the structural details using the appropriate terminology will determine the final mark.
Evaluation criteria	<ul style="list-style-type: none"> • <i>Knowledge and understanding</i> <ul style="list-style-type: none"> ○ Basic elements of macro- and microscopical structure of organs domestic animals: student's ability to describe the main macro- and microscopic features of animal organs animals will be evaluated. • <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> ○ Identification of animal tissues: student's ability to correctly identify both tissue type and sub-type will be evaluated. ○ Identification of skeletal elements: student's ability to correctly identify skeletal elements will be evaluated. ○ Identification of animal organs based on macroscopical appearance and microscopical structure: student's ability to correctly identify animal organs on the bases of their macroscopical appearance and microscopical structure will be evaluated. • <i>Autonomy of judgement</i> <ul style="list-style-type: none"> ○ The capacity to critically discuss the topics presented. • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ The correct use of the anatomical terminology will be evaluated. • <i>Capacity to continue learning</i> <ul style="list-style-type: none"> ○ The student's capacity to describe anatomical structures of animal species not covered by the teaching course might be also evaluated.
Criteria for assessment and attribution of the final mark	The final grade is awarded out of thirty. The exam is passed when the grade is greater than or equal to 18/30. Students will pass the exam if they pass all the three tests: Histology, Locomotor and Nervous Systems, and final exam. The ability to correctly describe tissue and organs using the proper anatomical terminology will be evaluated. The maximum mark will be given to students that will correctly recognize all the submitted tissues and organs and will be able to describe their morphological and structural details using the correct anatomical terminology. The outcome of the integrated exam of "Zoology, Histology and Anatomy" will result from the weighted average of the marks awarded for the exams of "Histology and Applied Anatomy of Domestic Animals" and "Zoology and Cell Biology".
Additional information	