General information	
Academic subject	**Histology and Applied Anatomy of Domestic Animals – (i.c. Zoology, Histology and Anatom)**
Degree course	Animal Science
Academic Year	2021/2022
European Credit Transfer and Accumulation System (ECTS)	8
Language	Italian
Academic calendar (starting and ending date)	II semester
Attendance	Mandatory

Professor/ Lecturer	
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Department and address	Veterinary Medicine Campus – Valenzano (BA)
Virtual headquarters	Teams code: fn2rdoz
Tutoring (time and day)	Wednesday 15.30-17.30 h; Friday 11.30-13.30 h

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	To be admitted to the final exam, the student must comply with the prerequisite and therefore having passed the following exam: ○ Structural and Metabolic Biochemistry
Contents	Introduction: aims of the course and teaching modalities. Criteria of evaluation of knowledge, competence and skill. Histology: covering and lining epithelia; glandular epithelium; connective tissue proper; cartilage; bone; blood; skeletal muscle; cardiac muscle; smooth muscle; nervous muscle. Species covered. Anatomical terminology. Body regions. Osteology: divisions of the skeletal system; axial skeleton; appendicular skeleton. Arthrology: classification of joints; joints of the head, spine, thorax, shoulder, thoracic limb, pelvic grid, pelvic limb. Myology: structure of skeletal muscles; muscles of the head, neck, thorax, abdomen, shoulder, thoracic limb, pelvis, pelvic limb. Integumentary apparatus: skin and cutaneous annexes. Splanchnology: body cavities and serous membranes. Digestive system: mouth; pharynx; oesophagus; stomach; intestine; liver; pancreas. Lymphatic system: haemolymph nodes; spleen; thymus; bone marrow. Respiratory system: nasal cavities; bronchi; lungs; pleurae. Blood circulatory system: heart; arteriae; venae. 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. Central Nervous System: spinal cord; brain. Peripheral and Autonomous Nervous System. Sense organs. Practical activities – Use of light microscope and observations of histological sections. Observation and group-study of skeletal elements, joints, muscles and

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	visceral organs from animal species covered by the course (equine, bovine, small ruminants, swine, dog and cat). Videos, plastic anatomical models and dissections of small ruminant carcasses will be used as didactic subsidies.
Books and bibliography	• 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. • Appunti di lezione e diapositive in formato ppt fornite dai docenti.
Additional materials	Merighi – Anatomia applicata e Topografia regionale veterinaria

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
200	70	25	105
ECTS			
8	7	1	

Teaching strategy	The teaching course of Histology and Applied Anatomy of Domestic Animals in not taught in e-learning mode. Frontal lectures will be carried out through Powerpoint presentations in classrooms provided with multimedial 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.
Expected learning outcomes	
Knowledge and understanding on:	The teaching course will provide the bases of: ○ Investigation techniques used in morphological sciences. ○ Basic elements of macro- and microscopical anatomy of domestic animals.
Applying knowledge and understanding on:	○ Identification of animal tissues. ○ Identification of skeletal elements. ○ Identification of animal organs based on their macroscopical appearance and microscopical structure.
Soft skills	• *Making informed judgments and choices* ○ Students will be able to correctly identify skeletal elements and organs belonging to animal species covered by the course. • *Communicating knowledge and understanding* ○ 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. • *Capacities to continue learning* ○ 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 and the second one on Osteology. During the tests, students will be asked to identify three tissues and three bone elements. Students that will correctly identify two tissues

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	and two bones will pass the Histology and Osteology test, respectively. 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 test mark. Students that will not undergo the ongoing tests will have to attend the Histology and Osteology tests during the final examination. The outcome of the integrated exam of "Zoology, Histology and Anatomy" will result from the weighed mean of the marks of the exams of "Histology and Applied Anatomy of Domestic Animals" and "Zoology and Cell Biology". A 30-point scale will be used, divided into failing (0 to 17) and passing (18 to 30 cum laude) grades.

Evaluation criteria	• *Knowledge and understanding:*
	  ○ Investigation techniques used in morphological sciences: student's ability to distinguish between light and electron microscope images will be evaluated.
	  ○ 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.
	• *Applying knowledge and understanding*
	  ○ 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.
	• *Autonomy of judgment:*
	  ○ Student's ability to correctly attribute a skeletal element or organ to one of the animal species covered by the course will be evaluated.
	• *Communicating knowledge and understanding:*
	  ○ The correct use of the anatomical terminology will be evaluated.
	• *Capacities to continue learning:*
	  ○ 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 minimum mark to pass the exam is 18 and the maximum mark is 30 cum laude. Students will pass the exam if they pass all the three tests: Histology, Osteology and final exam. La 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.
Additional information	

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