

General information	
Academic subject	<b>Principles of Physiology and Endocrinology of Domestic Animals</b>
Degree course	Animal Science
Academic Year	2021/2022
European Credit Transfer and Accumulation System (ECTS)	6
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	Microsoft Teams platform if necessary
Tutoring (time and day)	Tuesday 12.30-14.30 Thursday 14.00-15.00

Syllabus	
<b>Learning Objectives</b>	<p>Main objectives of the course are:</p> <ul style="list-style-type: none"> <li>the acquisition of basic knowledge of cellular physiology to understand mechanisms underlying the functioning of the main organs that make up the different systems and apparatuses,</li> <li>understanding how endocrine system regulates the activity of organs and systems.</li> </ul> <p>Students will have to undertake a comparative study of the physiology of different animal species in line with the educational objectives of the degree course.</p>
<b>Course prerequisites</b>	<p>To be admitted to the final exam, the student must comply with the prerequisite and therefore having passed the following exams:</p> <ul style="list-style-type: none"> <li>Structural and metabolic biochemistry</li> <li>Zoology, Histology and Anatomy.</li> </ul>
<b>Contents</b>	<p><b>Physiology:</b> Cell. Plasma membrane. Osmosis. Diffusion. Active transport. Membrane potential. Action potential. Neuron. Propagation of nerve impulses. Synapses. Central and peripheral nervous system. Autonomous nervous system. Muscle. Blood and its functions. Cardiovascular system. Respiratory system. Digestive system. Kidneys.</p> <p><b>Endocrinology:</b> Introduction to the endocrine system: glands and hormones (chemical nature, synthesis, storage and transport, interaction with target cells, secretion regulation mechanisms, hormone dosage: RIA and ELISA methods). Endocrine pancreas: insulin, glucagon, somatostatin, pancreatic polypeptide, gastrin. Endocrine regulation of calcium and phosphate metabolism. Hypothalamus and pituitary. Thyroid. Adrenal: cortical and medullary. Endocrine regulation of reproductive activity. Breast and lactation. Endocrine regulation of metabolism.</p>
<b>Books and bibliography</b>	Physiology of Domestic Animals, Ø.V. Sjaastad, O. Sand, K. Hove, Ambrosiana Publishing House
<b>Additional materials</b>	Scientific articles proposed by the teacher

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
<b>Hours</b>			
150	50	25	75
<b>ECTS</b>			
6	5	1	0
<b>Teaching strategy</b>		The objectives of the course will be achieved through theoretical lectures that will take place in the classroom using didactic material appropriately developed in power point format. During the course, self-assessment questionnaires are provided to verify the learning status. The teacher will also provide students with scientific works to supplement the knowledge available in the recommended textbook. The course will be completed by a series of laboratory exercises through which students will put into practice some basic knowledge learned. Students will participate in the exercises divided into small groups flanked by the teacher and laboratory staff. Halfway through the course, the teacher will divide the students into groups and assign each one a topic to be explored. The result of the work must be organized in a presentation in power point format that each group will present to the class. The teacher will formulate an opinion on the learners regarding their ability to deepen a topic, to aggregate and divide the work and to present the results	
<b>Expected learning outcomes</b>			
<b>Knowledge and understanding on:</b>		<ul style="list-style-type: none"> <li>○ Students must have acquired the ability to understand the cellular mechanisms underlying the interactions between cells</li> <li>○ At the end of the course the student will have acquired essential knowledge of cell and organ physiology, as well as endocrinology. He will also have understood the role of the nervous and endocrine systems in the functional regulation of the organism</li> </ul>	
<b>Applying knowledge and understanding on:</b>		<ul style="list-style-type: none"> <li>○ The student will be able to functionally relate the various systems and apparatuses</li> <li>○ The student will be able to independently read and interpret a report relating to the main blood tests of clinical and endocrine chemistry</li> </ul>	
<b>Soft skills</b>		<ul style="list-style-type: none"> <li>• <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> <li>○ At the end of the course, the student should acquire the ability to recognize the most important differences between physiology and pathophysiology and to support own ideas</li> </ul> </li> <li>• <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> <li>○ The student should have known technical terminology to communicate with colleagues and experts in the field of animal sciences</li> </ul> </li> <li>• <i>Capacities to continue learning</i> <ul style="list-style-type: none"> <li>○ The student should be able to further improve knowledge by autonomous learning</li> </ul> </li> </ul>	
<b>Assessment and feedback</b>			
Methods of assessment		The exam will be carried out at the end of the course by students in good standing with the prerequisites. The exam will consist of an interview or a written test with multiple choice questions on the topics of cellular and organ physiology and endocrinology.	
Evaluation criteria		<ul style="list-style-type: none"> <li>• Knowledge and understanding</li> </ul>	

	<ul style="list-style-type: none"> <li>○ The teacher will verify the acquisition of the basic knowledge on animal physiology and endocrinology</li> <li>• <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> <li>○ The teacher will verify that the student is able to functionally relate the various systems and apparatuses.</li> <li>○ The teacher will verify that the student is able to independently read and interpret a report relating to the main blood tests of clinical and endocrine chemistry</li> </ul> </li> <li>• <i>Autonomy of judgment</i> <ul style="list-style-type: none"> <li>○ The teacher will verify the student's ability in recognizing the most important differences between physiology and pathophysiology and his capacity in supporting own ideas in the debate with the teacher</li> </ul> </li> <li>• <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> <li>○ The teacher will verify the acquisition of the specific terminology which will make the student able to communicate in the field of animal sciences</li> </ul> </li> <li>• <i>Communication skills</i> <ul style="list-style-type: none"> <li>○ The teacher will verify the ability to convey one's thoughts in a clear and interesting way</li> </ul> </li> <li>• <i>Capacities to continue learning</i> <ul style="list-style-type: none"> <li>○ the teacher will verify the acquisition by the student of an adequate study method that allows him to continue the study independently</li> </ul> </li> </ul>
Criteria for assessment and attribution of the final mark	In formulating the judgement for each student, the teacher will hold account of the commitment that each will have shown in passing the ongoing tests, in the interview exam and in the presentation of group work on the subject proposed by the teacher.
<b>Additional information</b>	