



ACADEMIC YEAR 2023/2024

General information	
Academic subject	<b>CLINICAL EXAMINATION AND MEDICAL PATHOLOGY</b>
Integrated teaching modules	<b>Medical pathology; Clinical examination; Clinical pathology.</b>
Degree course	VETERINARY MEDICINE LM42
Academic Year	IV
European Credit Transfer and Accumulation System (ECTS)	10 (ECTS lessons: 7; ECTS exe/lab/tutor: 3)
Language	ITALIAN
Academic calendar	I 7-weeks period
Attendance	MANDATORY

Professor/ Lecturer	Email address	Telephone nr.
Andrea Zatelli	andrea.zatelli@uniba.it	080-4679804
Stefano Ciccarelli	stefano.ciccarelli@uniba.it	080-4679816
Grazia Carelli	grazia.carelli@uniba.it	080-4679859

Department and address	Campus of Veterinary Medicine, SP62 per Casamassima km 3, 70010, Valenzano
Virtual headquarters	Teams platform
Tutoring (time and day)	Medical pathology and Clinical examination: Tuesday 15:00-16:00 or by appointment Clinical pathology: Tuesday 14:00-17:00; Thursday: 11:00-13:00 or by appointment

Syllabus	
<b>Learning Objectives</b>	The integrated course has several objectives: -allow the student to know the essentials of etiology, pathogenesis and symptomatology of the main diseases of internist medical interest in companion animals (including horses and exotics) and food-producing animals, in order to acquire the skills necessary for the identification of patient problems for a correct diagnostic procedure; -provide the student with the basic knowledge for the proper performance of clinical examination in pets and the clinical and instrumental methodology to be applied in the management of the individual patient. How to record and evaluate the electrocardiographic tracing will also be taught. -Finally, the teaching aims to provide students with the basics of laboratory methodologies and procedures, techniques for taking and storing biological specimens, and to provide the basis for identifying, based on pathophysiological mechanisms, the most appropriate laboratory investigations to be performed in the diagnostic workup and to be able to interpret and understand the limitations of tests.
<b>Course prerequisites</b>	Prerequisites: Veterinary Pharmacology and Toxicology. The student must have acquired knowledge and skills related to the disciplines of anatomy, biochemistry, physiology and general pathology.
<b>Contents of the teaching module:</b>	The module concerns the area of Clinical sciences in companion animals (including horses and exotics) and Clinical sciences in food-producing animals.



<p><b>Medical pathology</b></p> <p>teacher: <b>Andrea ZATELLI</b></p> <p><b>Lectures</b> <b>ECTS: 3</b></p> <p><b>hours: 39</b></p> <p><b>Practical activities</b></p> <p><b>ECTS: 1</b></p> <p><b>Hours: 20</b></p>	<p>Pathologies of the digestive, respiratory, cardiovascular, urinary, musculoskeletal, hematopoietic, endocrine and nervous system pathologies of the major species of veterinary interest (bovine, dog, horse and cat).</p> <p>For each pathology, the etiology, pathogenesis, lesions and symptomatology will be considered. For major organs, specific functional failure (renal, hepatic, cardiac, respiratory, pancreatic failure) will be highlighted. In addition, some complex pathological pictures considered based on their epidemiological frequency will be treated.</p> <p>Practical activities will be held in the appropriately equipped clinics of the Teaching Veterinary Hospital of the Medicine Campus. Students will be into groups and supervised by the course teacher and collaborators. Practical activities include history taking, clinical examination, recognition of signs of illness, selection of diagnostic procedures, communication with the client.</p> <p>Access to the outpatient clinics will be allowed only to students equipped with protective clothing (gowns and disposable latex gloves), who have read the biosafety manual and signed the risk exposure consent form.</p> <p>Please refer to the biosafety manuals for details.</p>
<p>Contents of the teaching module: <b>Clinical examination</b></p> <p>Teacher: <b>Stefano Ciccarelli</b></p> <p><b>Lectures</b> <b>ECTS: 2</b></p> <p><b>hours: 26</b></p> <p><b>Practical activities</b></p> <p><b>ECTS: 1</b></p> <p><b>hours: 20</b></p>	<p>The module concerns the area of Clinical sciences in companion animals (including horses and exotics) and Clinical sciences in food-producing animals.</p> <p>Diagnostic methods. Direct semiological investigations. Outline of clinical examination: signaling, history, general physical examination. Clinical examination of the systems in different animal species: cardiovascular, respiratory, gastrointestinal, urinary, integumentary, lymphatic and nervous systems. Clinical procedures. Clinical electrocardiography.</p> <p>Practical activities will be held in the appropriately equipped clinics of the Teaching Veterinary Hospital of the Medicine Campus. The students, divided into groups, will be supervised by the course leader and collaborators and will learn direct semiological procedures (inspection, palpation, percussion, auscultation, etc.).</p> <p>Access to the outpatient clinics will be allowed only to students equipped with protective clothing (gowns and disposable latex gloves), who have read the biosafety manual and signed the risk exposure consent form.</p> <p>Please refer to the biosafety manuals for details.</p>
<p>Contents of the teaching module: <b>Clinical pathology</b></p> <p>Teacher: <b>Grazia Carelli</b></p> <p><b>Lectures</b> <b>ECTS:2</b></p> <p><b>hours: 26</b></p>	<p>The module concerns the area of Clinical sciences in companion animals (including horses and exotics) and Clinical sciences in food-producing animals.</p> <p>General procedures for handling biological specimens. Hemochromocytometric examination. Bone marrow evaluation. Evaluation of hemostasis. Serum protein evaluation and electrophoresis. Examination of effusions. Urine examination. Clinical enzymology. Evaluation of liver, renal, pancreatic and gastrointestinal function. Evaluation of endocrine, metabolic and lipid disorders.</p>



<p><b>Practical activities</b> <b>ECTS: 1</b>  <b>hours: 20</b></p>	<p>The practical activities will take place in the laboratories of the Medical Clinic section of the Department of Veterinary Medicine. The students, divided into groups according to their number, will be supervised by the course teacher and collaborators and will learn the manual skills required to perform the main laboratory analyses. The individual activities will be replicated for each group. Access to the laboratories will be allowed only to students equipped with protective clothing (gowns and disposable latex gloves), who have read the biosafety manual and signed the risk exposure consent form. Please refer to the biosafety manuals for details.</p>
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<p><b>Personal study material</b> <b>Books and bibliography</b></p>	<p>Medical pathology: Medicina Interna dei Piccoli Animali: Ettinger, Feldman - Vitali "Trattato di Clinica Medica Veterinaria". Ottava edizione, Antonio Delfino Editore, anno 2019. Nelson, Couto "Medicina interna del cane e del gatto". Quarta edizione, Elsevier-Masson, anno 2015. Dunlop, Malbert "Veterinary Pathophysiology". Prima edizione, Blackwell Publishing, anno 2004. Santilli, Bussadori, Borgarelli "Manuale di Cardiologia del cane e del gatto". Prima edizione, Elsevier-Masson, anno 2012. Zatelli "Malattie renali del cane e del gatto". Prima edizione, EDRA, anno 2014. Testi consigliati Medicina Interna dei Grandi Animali: Dirksen "Medicina Interna e Chirurgia del Bovino", Edizione italiana Point Veterinaire, anno 2004. Smith "Large animal internal medicine". Quarta edizione, Mosby, Elsevier, anno 2008. Radostis "Veterinary Medicine: A textbook of the diseases of cattle, horses, sheep, pigs and goats". Decima edizione, Saunders-Elsevier, anno 2007. Rose "Manuale di clinica del cavallo". Prima edizione italiana, Antonio Delfino Editore, anno 2006.</p> <p>Clinical examination: Semeiologia clinica veterinaria a cura di P. Ciaramella, POLETTO EDITORE, 2014 Notes on electrocardiography</p> <p>Clinical pathology: Villiers E. and Ristic J. Gli esami di laboratorio. Indicazioni, esecuzione, interpretazione. Cane e gatto. Edra, 2017. Paltrinieri S., Bertazzolo W., Giordano A. Patologia clinica del cane e del gatto. Approccio pratico alla diagnostica di laboratorio. 1° ed., Elsevier-Masson, 2010</p>
<p><b>Additional materials</b></p>	

<b>Work schedule</b>			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Self-study hours
<b>Hours</b>			
250	91	60	99
<b>ECTS</b>			
10	7	3	
<b>Teaching strategy</b>		<p>The main teaching methodologies adopted in the integrated course are represented by lectures given in classrooms equipped with multimedia devices flanked by different methodologies such as: problem solving, case studies and role-playing, through which, by means of simulations and propositions of real cases, information can be integrated to mature a full learning process and to consolidate the knowledge and skills delivered by the integrated course.</p> <p>There are also self-learning activities and self-assessment tests provided by the lecturers.</p> <p>In the practical activities, each student will be required to perform the various components of the clinical examination by applying, under the guidance of the lecturer, the semeiological methodology by inspection, palpation, percussion and auscultation.</p> <p>In addition, each student will perform the laboratory techniques covered in the exercise.</p> <p>This will foster the conscious use of the techniques and clinical strategies explicated in the lectures and the building of skills and competencies.</p>	
<b>Expected learning outcomes</b>			
<b>Knowledge and understanding on:</b>		<p>At the end of the course the student must know:</p> <ul style="list-style-type: none"> <li>○ etiology, pathogenesis, clinical signs and diagnosis of the most common pet diseases (DOC 2.5)</li> <li>○ principles of interpersonal interaction including: communication, leadership, management and teamwork (DOC 2.11)</li> </ul>	
<b>Applying knowledge and understanding on:</b>		<p>At the end of the course the student should be able to:</p> <ul style="list-style-type: none"> <li>○ Correctly apply biosafety principles (DOC 1.28)</li> <li>○ Collect, store and transport specimens, select appropriate diagnostic tests, interpret, and understand the limitations of test results (DOC 1.21)</li> <li>○ Communicate clearly and collaborate with referring diagnostic services (DOC 1.22)</li> <li>○ Complete clinical records in a manner satisfactory to colleagues and public understanding (DOC 1.5)</li> <li>○ Know and apply the principles of clinical governance and practice with evidence-based veterinary medicine (DOC 1.9)</li> <li>○ Obtain an accurate history, of the individual animal or group, and the environment in which they live (DOC 1.15)</li> <li>○ Handle the patient properly with respect for the animal and instruct others in applying restraint techniques (DOC 1.16)</li> <li>○ Perform a comprehensive clinical examination and demonstrate clinical reasoning skills (DOC 1.17)</li> <li>○ Recognize zoonotic diseases, take appropriate action including reporting to competent authorities (DOC 1.24)</li> </ul>	



<p><b>Soft skills</b></p>	<p><b>Making informed judgments and choices</b> At the end of the course, the student must be able to:</p> <ul style="list-style-type: none"> <li>○ Review and critically evaluate the literature (DOC 1.8)</li> <li>○ Show ability in the logical approach to clinical and scientific reasoning</li> </ul> <p><b>Communicating knowledge and understanding</b> At the end of the course, the student must be able to:</p> <ul style="list-style-type: none"> <li>○ Ability to work as a member of a multidisciplinary team in offering services (DOC 1.6)</li> <li>○ Ability to adopt different language registers, including the technical-scientific one, to communicate adequately with customers, colleagues and responsible authorities (DOC 1.4)</li> </ul> <p><b>Capacities to continue learning</b> At the end of the course, the student must be able to:</p> <ul style="list-style-type: none"> <li>○ Acquire the methodological basis for continuing and expanding autonomously the knowledge useful for the profession and lifelong learning (DOC 1.13)</li> </ul>
<p><b>Summary of the knowledge and competences that the integrated course concurs to let the students acquire (Day One Competences) as scheduled by EAEVE</b></p>	<p><b>Knowledge and understanding:</b> 2.1 2.5 2.11</p> <p><b>Applying knowledge and understanding:</b> 1.4 1.5 1.6 1.8 1.9 1.13 1.15 1.16 1.17 1.21 1.22 1.24 1.28</p>

<p><b>Assessment and feedback</b></p>	
<p>Methods of assessment</p>	<p>The examination of the integrated course 'Semeiotics and Medical Pathology' allows the acquisition of 10 of the CFUs provided for in the study plan. The examination is oral and can be taken in two parts: a partial examination of the "Clinical pathology" module and a single examination comprising the two modules "Medical Pathology" and "Medical Semeiotics".</p>
<p>Evaluation criteria</p>	<ul style="list-style-type: none"> <li>• <i>Knowledge and understanding</i> <ul style="list-style-type: none"> <li>○ the student may, at his or her discretion, take an "in itinere" written test consisting of a multiple-choice questionnaire (one correct answer only) on the topics covered in class</li> <li>○ final examination, through an oral test, will ascertain the acquisition of the expected knowledge as detailed in the course objectives.</li> </ul> </li> </ul>



	<ul style="list-style-type: none"> <li>○ the student must be familiar with the concepts and methodologies used in diagnostic techniques.</li> <li>• <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> <li>○ the student should demonstrate the ability to make connections between different disciplines and provide appropriate examples</li> <li>○ the student must demonstrate the ability to assess a clinical picture and prepare a diagnostic algorithm</li> <li>○ the student must demonstrate the ability to correctly evaluate the results of laboratory investigations</li> </ul> </li> <li>• <i>Autonomy of judgment</i> <ul style="list-style-type: none"> <li>○ the student must show analytical and critical capacity with regard to the topics studied</li> <li>○ the student should demonstrate an ability to make a global and unified assessment of the most common clinical situations of farm and companion animals.</li> </ul> </li> <li>• <i>Communication skills</i> <ul style="list-style-type: none"> <li>○ capacity and clarity of exposition</li> <li>○ appropriateness of expression, with particular reference to specialist terminology</li> </ul> </li> <li>• <i>Capacities to continue learning</i> <ul style="list-style-type: none"> <li>○ ability to elaborate knowledge and transfer it to new and differentiated situations</li> </ul> </li> </ul>
<p>Criteria for assessment and attribution of the final mark</p>	<p>The results of the 'Laboratory Diagnostics' and 'Medical Pathology and Semeiotics' tests will contribute to the definition of the final grade for the 'Medical Semeiotics and Pathology' examination.</p> <p>The final grade is the result of the collegiate judgement relating to the two partial examinations in which the student must demonstrate that has acquired knowledge and a critical sense of the topics studied. The final grade, expressed in thirtieths, will be considered passed with a mark equal to or higher than 18 and will take into consideration not only the accuracy of the answers, but also the ability to communicate, clarity of exposition, disciplinary competence and the level of in-depth study.</p>
<p><b>Additional information</b></p>	