

Academic subject: General Pathology and Pathophysiology			
Degree Class: L38		Degree Course: Animal Science	
		Academic Year: 2020/2021	
		Kind of class: mandatory	
		Year: II	
		Period: II	
		ECTS: 6 divided into ECTS lessons: 5 ECTS exe/lab/tutor: 1	
Time management, hours, in-class study hours, out-of-class study hours lesson: 50 exe/lab/tutor: 25 in-class study: 0 out-of-class study: 75			
Language: Italian		Compulsory Attendance: Yes	
Subject Teacher: Antonella Perillo		Tel: 080-5443929 e-mail: antonella.perillo@uniba.it	
		Office: Department of Veterinary Medicine Room Floor	
		Office days and hours: Tuesday: 10:00 am-01:00 pm Wednesday: 02:00pm-04:00 pm Thursday: 10:00am- 01:00pm	
Prerequisites: Microbiology and applied immunology			
Educational objectives: Students will be led, through theoretical teaching and, possibly some laboratory exercises, to acquire the ability to understand the methods and mechanisms of damage production by etiological agents of various kinds; the ability to identify the damage response mechanisms implemented by articulated cellular and tissue systems of a living organism together with its multiform molecular complexes; the basic techniques for discriminating the main alterations from a histological, cytological and macroscopic point of view, in order to arrive at a morphological diagnosis; the fundamental principles of modern cellular and molecular pathology, as well as of degenerative, inflammatory and neoplastic multicellular pathological processes, and cellular pathophysiology and mechanisms of organ pathology and integrated functions.			
Expected learning outcomes (according to Dublin Descriptors)		<p>Knowledge and understanding: knowledge relating not only to the pathogenesis, but also to the physio-pathological mechanisms underlying animal diseases</p> <p>Applying knowledge and understanding: Ability to recognize and describe the pathogenetic and molecular mechanisms of cell and tissue damage in relation to the various etiological causes of disease.</p> <p>Making judgements: Skills for the macroscopic recognition of the main characteristics of degenerative, inflammatory and neoplastic lesions of domestic animals through the visualization of macroscopic findings directly with the aid of macro-photographs, with the projection of histological findings (micro-photographs) and, where possible, with the use of the optical microscope.</p> <p>Communication: Students must demonstrate through the use of appropriate medical-scientific terminology, the basic concepts of injury, damage and alteration in various animal diseases, so that students are able to understand the pathophysiological mechanisms underlying animal diseases.</p> <p>Lifelong learning skills: Students will have to demonstrate the ability to learn the main aspects of cellular and molecular pathophysiology and the pathological processes underlying diseases</p>	

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Course program

General concepts of Pathology. Etiology: extrinsic and intrinsic causes of disease. Pathogenesis, morphological modifications and functional alterations concepts of cellular alteration. Causes of cell damage: cellular adaptations of growth and differentiation. Atrophy, hypertrophy, hypoplasia, hyperplasia, metaplasia. Cell death: Necrosis and apoptosis. Nutritional factors to physical causes of diseases. The inflammatory response; acute inflammation; chronic inflammation. Pathologies related to inflammation. Oncology: control of cell proliferation. Anaplasia. Nomenclature and classification of tumors. Physical, chemical and oncogenic virus carcinogenesis.

Differences between benign and malignant tumors. Tumor angiogenesis. The metastatic process. Immunity in the tumor context. Angiogenesis in the physiological and pathological context. Haemostasis: haemorrhagic syndromes, disseminated intravascular coagulation, thrombosis. Atherosclerosis: causes and consequences. Hyperlipidemias, hypertension, vascular damage, clinical manifestations and complications. Physio-pathology of the cardiovascular system: changes in blood pressure, ischemia. Physiopathology of the respiratory system: dyspnea and cyanosis, acute and chronic respiratory failure. Renal pathophysiology: acute and chronic renal failure. Pathophysiology of the liver: steatosis and cirrhosis, jaundice, hepatic insufficiency.

Teaching methods:

Theoretical lessons will focus on the scheduled topics that will be exposed using the appropriate multimedia tools (personal computer, projector, use of the WEB network). Some hours of practical activity will be carried out mainly in the histopathology and on-cology laboratories and in the immunohistochemistry one and eventually in the sector room. Outside of normal teaching hours, self-assessment tests are provided to verify the progress of acquisitions and, where necessary, the use of additional learning methodologies.

Auxiliary teaching:

Self-assessment test

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Assessment methods:

Self-assessment test

Bibliography:

Marcato P. S., Anatomia e Istologia Patologica, Esculapio, 1997.

Rubin R., Strayer D.S., Patologia generale, tomo I, Piccin, 2014

McGavin M. D., Zachary J. F., Patologia generale veterinaria, Elsevier Masson, 2008.