

Syllabus

Module title:	Pathomorphology Module 3	ECTS	8
Polish translation:	Patomorfologia		
Course:	Veterinary Medicine		

Module language:	English	Stage:	
Form of studies: <input checked="" type="checkbox"/> intramural <input type="checkbox"/> extramural	Type of module: <input type="checkbox"/> basic <input checked="" type="checkbox"/> directional	X mandatory <input type="checkbox"/> elective	Semester:5 <input checked="" type="checkbox"/> winter semester <input type="checkbox"/> summer semester
Academic year:		2023/2024	Catalogue number: JM-FVM -JMSS-05Z/06L/07Z_23

Module coordinator:	Prof. dr hab. Rafał Sapierzyński
Teachers responsible for the module:	Academic teachers of the Institute Veterinary Medicine; Department of Animal Pathology and Veterinary Diagnostics, Division of Pathology
Unit responsible for the module:	Institute Veterinary Medicine; Department of Animal Pathology and Veterinary Diagnostics, Division of Pathology
Faculty in charge:	Faculty of Veterinary Medicine
Objectives of the module:	<p>Aim of the course is:</p> <ul style="list-style-type: none"> to gain knowledge in field of pathomorphology of domestic animals to learn methods of performing an autopsy in various domestic animals to know indications and methods of collection of samples for cytopathological and histopathological examination to achieve ability to correctly interpret the results of histopathological and cytopathological examination <p>to learn how to prepare cytopathological smears and to diagnose basic pathological changes during microscopic examination</p>
Teaching forms, number of hours:	<p>a) Lectures – 30 hours b) Seminars – 8 hours c) Labs – necropsy room – 12 hours d) Labs – clinical pathology – 4 hours e) Tests and exams – 6 hours</p> <p>Depending on external conditions that make it impossible to conduct classes in a planned form, it is allowed to change the didactic forms.</p>
Teaching methods:	<p>Lectures, seminars, practicals in the laboratory of histopathology and necropsy room.</p> <p>Students learn theoretical information about following subjects:</p> <ul style="list-style-type: none"> Clinical pathology. Methods of sample collection, handling and fixation. Results of microscopic examination - interpretation. Clinical pathology. Cytopathology of inflammation and neoplasia – selected examples. Pathology of female reproductive system - congenital disorders, non-inflammatory disorders, inflammation, neoplasia. Pathology of male reproductive system. Congenital disorders and alteration of spermatogenesis, inflammation and neoplasia. Pathology of endocrine system. Pathology of pituitary gland, adrenal glands and pancreatic islets. Pathology of thyroid glands, parathyroid glands, chemoreceptor organ Pathology of the skin: general consideration. Microscopic examination of the skin. Congenital disorders. Chemical and physical causes of dermal lesions. Pathology of the skin: viral, bacterial, fungal, algal and parasitic skin diseases. Pathology of the skin: Immune mediated skin diseases. Miscellaneous skin disorders. Examples of cutaneous neoplasms. Pathology of musculoskeletal system - bones. Responses to injury, types of bone diseases, bone tumors. Pathology of musculoskeletal system - muscle and joints. Response to injury, types articular and muscle diseases. Pathology of nervous system – selected issues Pathology of eye and ear - selected issues Cytology of serosal cavities in cats – presentation of selected cases Introduction to forensic pathology/Pathology of newborns. <p>During practicals students perform diagnostic autopsies and learn to recognise pathological changes and correctly interpret found abnormalities. Students learn to collect cytopathological material, make smears, conduct microscopic evaluation of collected material and issue cytopathological diagnosis.</p> <p>Depending on external conditions that make it impossible to conduct classes in a planned form, it is allowed to change the didactic methods.</p> <p>Detailed schedule will be defined by the coordinator of the course at the beginning of semester. Detailed organization of consultations will be defined by the coordinator of the course at the beginning of semester.</p>
Formal prerequisites and initial requirements:	anatomy, clinical anatomy, histology, physiology, physiopathology, immunology, microbiology. pathomorphology module 1, pathomorphology module 2..

	<p>Student should have a theoretical and practical knowledge about subjects mentioned above</p> <p>Student is capable to work with light microscope</p>		
Learning outcomes:	<p>Knowledge:</p> <ul style="list-style-type: none"> • The student has theoretical knowledge in the field of general pathology of animals • The student knows how to perform autopsies of a companion animal and a farm animal. • The student has theoretical knowledge in the field of general pathology of animals, specific pathology of animals, clinical pathology • Knows and interprets pathophysiological changes in organs and systems, as well as biological (including immunological) and pharmacological mechanisms enabling recovery. • Speaks Polish and Latin medical nomenclature • Speaks a modern foreign language to a degree that enables communication with specialists in the field of veterinary and related sciences and uses foreign-language source materials. • Describes, explains and interprets disorders at the level of the cell, tissue, organ, system and organism in the course of the disease; • Describes, explains and interprets the mechanisms of organ and systemic pathologies; • Describes and interprets causes and symptoms, describes and interprets anatomical changes; • Opisuje i interpretuje przyczyny i objawy, opisuje i interpretuje zmiany anatomopatologiczne; • • The student knows the health and safety rules applicable during the autopsy of animals and work in the histopathological laboratory. 	<p>Skills:</p> <ul style="list-style-type: none"> • Can perform autopsies on animals. • Can recognize basic pathological processes in histopathological examination. • The student is able to collect tissue material for histopathological examinations (excisions of internal organs, pathological tissues removed during procedures, tissue biopsies) properly secure and properly send to the histopathological laboratory. • Conducts a medical and veterinary interview in order to obtain accurate information about a single animal or group of animals and its or their living environment, • Collects, secures and knows the rules for transporting samples and performing standard laboratory tests, as well as correctly analyzes and interprets the results of laboratory tests. • Conducts a medical and veterinary interview in order to obtain accurate information about a single animal or group of animals and his or her in the living environment. 	<p>Competences:</p> <ul style="list-style-type: none"> • Can use practically acquired knowledge and acquired skills. • Demonstrates responsibility for decisions made towards humans and animals. • Adheres to ethical principles. • Can cooperate with representatives of other professions in the field of public health protection.
Assessment methods:	<p>Written test based on knowledge achieved and recognition of cytological slides (to pass this test student has to know at least 70% of obligatory material).</p> <p>Practical test – necropsy procedures and diagnostic necropsy – student has to perform necropsy according to necropsy procedures and is capable to recognise pathologic changes present in the examined cadaver (to pass this test student has to know at least 70% of obligatory material).</p> <p>Final EXAM: Test focused on general and systemic pathology – 100 question with 3 possible answers (only one is correct).</p> <p>At least 70% of answers have to be correct to pass exam.</p> <p>Final note consists of note (grade) of 7th semester (30 % of final note) and note (grade) of final exam (70 % of final note).</p> <p>Point are convert into notes according to following table.</p> <p>No extra assessment methods are anticipated.</p> <p>In case of unforeseen, unusual circumstances mandatory remote teaching and remote assessment methods might be adopted.</p>		
Formal documentation of learning outcomes:	<p>Grades gained during general pathology written colloquium and written test on necropsy techniques – marks are written in student lists.</p> <p>eHMS entry.</p>		
Elements impelling final grade:	<p>Average of positive grades from general pathology/histopathology colloquium and necropsy techniques test.</p>		
Teaching base:	<p>Teaching facilities of the Division of Pathomorphology, Department of Pathology and Diagnostics, Institute of Veterinary Medicine</p>		
<p>Mandatory and supportive materials :</p> <ol style="list-style-type: none"> 1. Lectures: general pathology 30 h. 2. Lectures: special pathology 60 h. 3. Necropsy for Veterinary Students. K. Kliczkowska-Klarowicz. SGGW, Warsaw 2017 4. Handouts – histopathology (given by lecturer) 5. Pathologic basis of veterinary disease. M. D. McGavin and J. F. Zachary. Mosby-Elsevier Ed. <p>Introduction to veterinary pathology. N. F. Cheville, Blackwell Publishing</p>			

Relevant scientific publications including those of the module coordinator.
ANNOTATIONS

Quantitative summary of the module:

Estimated number of work hours per student (contact and self-study) essential to achieve presumed learning outcomes of the module - base for quantifying ECTS:	75 h
Total ECTS points, accumulated by students during contact learning:	8 ECTS

Learning outcomes of the module relative to the learning outcomes of the subject:

Outcome category	Learning outcomes:	Learning outcomes relative to the course outcomes	Impact on the each of course outcomes*)
Knowledge -	describes, explains and interprets disorders on the cellular, tissue, organ, system and organism levels occurring in the course of the disease	W_NK1, W_NK2	
Knowledge -	describes and interprets causes and symptoms of the disease, describes and interprets patomorphological changes, uses procedures for therapy and prevention in the particular diseases	W_NK3	
	collects, analyses and correctly interprets clinical data, results of the laboratory tests and other diagnostics techniques	W_NK7	
Skills -	formulates clear case studies and knows how to create documentation according to the current laws and regulations, in the form understandable for the owner of the animal and clear for other veterinary surgeons	U_OUZ3	
Skills -	collects and safeguards the biological material, knows the rules of sample transport and basic laboratory analyses, properly evaluates and interprets results of laboratory analyses carries out patomorphological examination, prepares proper protocol, collects and labels samples and safeguards them for transport	U_PUZ6, U_PUZ15	
Competences -	student has sufficient biophysical knowledge for further application in the process of learning in the course of the studies	INNE 1	
Competences -			