

Code of subject	M_WE_ M_WE_SEM7 PATOMORF 2
Field of study	Veterinary medicine
Name of the training module including the Polish name	Pathomorphology 2 Patomorfologia 2
Language of instruction	English
Type of the training module	obligatory
Level of the training module	Master level
Form of studies	Stationary
Location in the programme (year)	IV
Location in the programme (semester)	VII
Number of ECTS credits with a division into contact/noncontact	4 (2,5/1,5)
Name and surname of the person in charge	dr hab. Wojciech Łopuszyński
Unit offering the subject	Department of Pathomorphology and Forensic Veterinary Medicine
Aim of the module	The aim of the teaching is to familiarize students with the pathology of neoplasms and to learn and acquire knowledge of pathological anatomy in relation to the digestive, respiratory, circulatory and immune systems, as well as methods of performing necropsies in various species of domestic animals, and to acquire diagnostic skills on the basis of post-mortem examination and microscopic examination to recognize, describe and interpret morphological changes occurring in the animal body in the course of diseases.
Learning outcomes	<p>Knowledge:</p> <p>K1. The student has theoretical knowledge in the field of animal tumour pathology and pathology of organ systems of animals, and knows the cause-and-effect relationships between lesions and the factors causing them in the area of the digestive, respiratory and circulatory and immune system.</p> <p>K2. The student knows the morphological structures of progressive changes and neoplasms.</p> <p>K3. The student describes and interprets lesions in selected pathological cases of the digestive, respiratory, circulatory and immune systems, as well as the mechanisms of their development and effects on the body.</p> <p>Skills:</p> <p>S1. The student is able to recognize the basic types of progressive lesions and neoplasms on the basis of histopathological examination and determine the prognosis.</p> <p>S2. The student is able to perform a post-mortem examination, assess signs of death and carry out a dissection within the digestive, respiratory, circulatory and immunological systems, as well as collect, secure and describe the material for microbiological, cytopathological, histopathological, toxicological examination.</p>

	S3. The student recognizes and names the pathological lesions in the digestive, respiratory, circulatory and immune systems in accordance with Polish and Latin terminology and assesses the pathological changes in these systems in terms of data from the history, results of clinical and laboratory tests, and in the case of infectious diseases, takes into account the elements of differential diagnosis, and also formulates the final morphological diagnosis and documents the results of the necropsy
	Social competences:
	C.1. The student is ready to draw conclusions from the results of pathomorphological examination.
	C.2. The student is prepared for a reliable self-assessment of the presented solutions referring to the available scientific achievements in the discipline
	C. 3. The student is aware of the risks resulting from contact with animal carcasses and biological material.
Preliminary and additional requirements	Credit in the field of the Pathomorphology module 1.

<p>Contents of the training module – a compact description</p>	<p><b>Lectures:</b></p> <p>Tumour pathology - definition of neoplasm, carcinogenesis, tumour epidemiology, microscopic examination and immunohistochemical techniques.</p> <p>Systemic pathology in the field of congenital malformations, regressive lesions, inflammations, circulatory disorders, progressive lesions and neoplasms and infectious diseases in the following systems:</p> <ul style="list-style-type: none"> <li>- digestive system - oral cavity and esophagus, forestomachs and the stomach, small and large intestines, liver and pancreas,</li> <li>- respiratory system - upper respiratory tract: nasal cavity, paranasal sinuses, pharynx, larynx, trachea; lung pathology,</li> <li>- circulatory system: cardiac pathology, vascular pathology,</li> <li>- male and female reproductive system pathology and urinary system pathology - consequences of kidney damage, nephritis, pathology of the urinary tract, pathology of the ovaries, uterus and vagina, pathology of male reproductive organs,</li> <li>- immune system - thymus, spleen, lymph nodes, response to damaging factors, autoimmune diseases, immune deficiencies</li> </ul> <p><b>Classes:</b></p> <p>Progressive lesions and neoplasms: granulation, fibroma, myxoma, sarcoma, melanosarcoma, angioma, papilloma, carcinoma, adenoma, adenocarcinoma, cholesteatoma, lymphoma / leukemia.</p> <p>Introduction to necropsy procedure and necropsy demonstration, rules in the post-mortem room, necropsy schedule, necropsy protocol.</p> <p>Practical training - necropsies of various species of animals with an overview of pathological lesions in individual organs and systems done by students under the supervision of academic teacher.</p>
<p>Recommended and obligatory reading list</p>	<p><b>Obligatory reading list:</b></p> <ol style="list-style-type: none"> <li>1. M.D. McGavin, J.F. Zachary. Pathologic Basis of Veterinary Diseases. Mosby/Elsevier (5-6th ed.), 2012, 2016</li> <li>2. Madej J.A., Houszka M., Nowak M., Dzimira S., Kapuśniak V.: Technique of pathomorphological studies on domestic animals- guidebook. Wydawnictwo UP Wrocław 2012.</li> <li>3. Madej J.A., Kandefer-Gola: Vademecum Pathomorphologicum et Latino-Anglico-Polonicum Lexicon Peculiarium. Wydawnictwo UP Wrocław 2012.</li> </ol> <p><b>Supplementary reading list:</b></p> <ol style="list-style-type: none"> <li>4. M. Grant Maxie. Jubb, Kenedy, and Palmer's Pathology of Domestic Animals. 6<sup>th</sup> ed. Vol 1-3, Elsevier. Missouri, 2016</li> </ol>
<p>The intended forms/activities/ teaching methods</p>	<p>Lecture, demonstration, discussion, practical classes, microscopic exercises, performing necropsies of various species of animals, individual consultations.</p>

Methods of verification and documentation forms of the achieved learning outcomes	<p>Current testing of knowledge and acquired skills during exercises, midterm exam on tumour pathology (oral exam, five questions for assessment), practical exam – necropsy procedure (pass or fail) preparation and completion of the necropsy protocol (written test - with a grade). The student must correctly perform a necropsy, using appropriate necropsy techniques and safety rules and prepare a post-mortem examination protocol. A positive effect of the test is a pass without a grade. There are three attempts regardless of their form: oral, written and practical.</p> <p>The condition for obtaining a credit for the module "Pathomorphology 2" is the presence in the classes according to the regulations of studies and a passing of the partial examinations. The grading scale used is in line with the Faculty's Education Quality Book.</p>		
Balance of ECTS credits	<b>CONTACT</b>		
		Hours	ECTS
	Lectures	30	1,2
	Laboratory exercises	30	1,2
	Consultation		
	Examination	2	0,1
	<b>NONCONTACT</b>		
	Preparation for laboratory exercises	18	0,6
	Completion of laboratory exercise reports	3	0,1
	Reading the recommended literature	2	0,07
	Preparation for examination	22	0,73
	<b>In total:</b>	<b>120</b>	<b>4</b>
Number of contact hours	<p>Participation in lectures – 30 hrs., participation in classes – 30 hrs, consultations, participation in examination – 2 hrs, total 2,5 ECTS</p>		

Relationship between subject learning outcomes and veterinary studies learning outcomes	K1 – B.W1 ++; B.W4 +; K2 – B.W3 ++; B.W10 +; K3 – B.W2 ++; S1 – B.U6 ++; S2 – B.U16 ++; S3 – B.U19 ++; C1 – K5 ++; C2 – K7 ++; K8 ++; C3 – K6 +; K11 ++;
Impact of selected compounds to final grade	The condition for obtaining a credit for the module "Pathomorphology 2" is passing positive grade for partial credits. Final grade: Oral midterm examination (progressive changes and neoplasms) - weight 40% Performing at least 2 necropsies – weight - 10% Practical midterm examination – necropsy procedure and technique – weight - 10% Preparation and completion of the necropsy protocol - weight 40%