Code of subject	M_WE_SEM8 PATOMORF 3
Field of study	Veterinary medicine
Name of the training module including the Polish name	Pathomorphology 3
	Patomorfologia 3
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)	VIII
Number of ECTS credits with a division into contact/noncontact	3 (1.9/1.1)
Name and surname of the person in charge	dr hab. Wojciech Łopuszyński
Unit offering the subject	Sub-Department of Pathomorphology and Forensic Veterinary Medicine
Aim of the module	The aim of teaching is to acquire by students theoretical knowledge related to selected organ systems and to improve practical skills in performing necropsies of different animal species, collecting material for laboratory investigations during necropsy, collecting and assessment of biopsy samples by microscopic evaluation and a comprehensive interpretation of the lesions and preparation of a necropsy protocol.
Learning outcomes	Konwledge:
	K1. The student has the theoretical knowledge in the field of special animal pathology in relation to the endocrine system, the locomotor system, the integumentary system and the reproductive-urinary system.
	K2. The student describes and interprets the pathological changes in selected diseases of the endocrine system, the musculoskeletal system, the integumentary system and the reproductive-urinary system.
	K3. The student knows the principles of biosecurity applicable during the necropsy and handling with biological material, as well as indications for additional tests that may complete the post-mortem diagnosis.
	Skills:
	S1. The student is able to carry out a complete necropsy of domestic animals and collect, secure and describe the material for additional laboratory investigations (microbiological, cytopathological, histopathological, toxicological, etc.)
	S2. The student recognises and names lesions in the animal organism in accordance with the Polish and Latin medical terminology and assesses the pathological changes in connection with the data from the history, clinical and laboratory test results, and is able to connect the image of changes with diseases and link the relationships between changes in various internal organs.

	S3. The student formulates the final morphologic diagnosis, concludes about the causes of death and prepares a comprehensive necropsy protocol.
	Social competences:
	C1. The student shows responsibility for the decisions made based on the causes of diseases and causes of death in animals.
	C2. The student is aware of the interdisciplinary importance of pathomorphological knowledge in the process of recognising and treating animal diseases.
	C3. The student is prepared to cooperate with representatives of other professions in the field of public health protection.
Preliminary and additional requirements	Pathomorphology 2
Contents of the training module – a compact description	**Lectures:** Special animal pathology in the field of congenital malformations, regressive changes, inflammations, circulatory disorders, progressive changes and tumours and infectious diseases in the following systems: - endocrine, locomotor, nervous, reproductive urinary and integumentary. **Classes:** Necropsy done by students under the supervision of academic teachers of various species of animals with an overview of pathological changes in individual organs and systems, preparation of a post-mortem examination protocol. Taking samples for cytological, histopathological, toxicological, bacteriological laboratory investigations. Pathognomonic lesions in the course of infectious diseases in animals.
Recommended and obligatory reading list	**Obligatory reading list:** 1. M.D. McGavin, J.F. Zachary. Pathologic Basis of Veterinary Diseases. Mosby/Elsevier (5-6th ed.), 2012, 2016 2. Madej J.A., Houszka M., Nowak M., Dzimira S., Kapuśniak V.: Technique of pathomorphological studies on domestic animals- guidebook. Wydawnictwo UP Wrocław 2012. 3. Madej J.A., Kandefer-Gola: Vademecum Pathomorphologicum et Latino-Anglico-Polonicum Lexicon Pecularium. Wydawnictwo UP Wrocław 2012. **Supplementary reading list:** 4. M. Grant Maxie. Jubb, Kenedy, and Palmer's Pathology of Domestic Animals. 6th ed. Vol 1-3, Elsevier. Missouri, 2016
The intended forms/activities/ teaching methods	Lecture, demonstration, discussion, practical classes, microscopic exercises, performing necropsies of various species of animals, individual consultations.

<table>
<tr><td>Methods of verification and documentation forms of the achieved learning outcomes</td><td>Current checking of knowledge and acquired skills during exercises, assessment of necropsy protocol, assessment of practical skills during necropsy and the ability to recognize gross and microscopic lesions (there are three attempts for each exam, regardless of their form: oral, written, practical)). The student must correctly perform necropsy, using appropriate techniques and applying health and safety rules, prepare a post-mortem examination protocol. The student must correctly identify and describe the three microscope slides. A positive effect of the exam is a passing without a grade. To pass the module "Pathomorphology 3" and be able to sit the final examination attendance at the classes according to the study regulations is required, performing at least three necropsy on your own and completing the necropsy protocol, passing practical necropsy exam and recognision of microscopic preparations. For the evaluation of partial exams pass or fail assessment is applied. The module ends with a written exam including open-ended questions and the formulation of morphologic diagnoses based on photos showing the necropsy lesions. The evaluation criteria specified in the Faculty Book of Education Quality are used to evaluate the final exam.</td></tr>
<tr><td>Balance of ECTS credits</td><td><table>
<tr><td colspan="3">CONTACT</td></tr>
<tr><td></td><td>Hours</td><td>ECTS</td></tr>
<tr><td>Lectures</td><td>15</td><td>0,6</td></tr>
<tr><td>Laboratory exercises</td><td>30</td><td>1,2</td></tr>
<tr><td>Examination</td><td>3</td><td>0,1</td></tr>
<tr><td colspan="3">NONCONTACT</td></tr>
<tr><td>Preparation for laboratory exercises</td><td>13</td><td>0,5</td></tr>
<tr><td>Completion of laboratory exercise reports</td><td>2</td><td>0,07</td></tr>
<tr><td>Reading the recommended literature</td><td>1</td><td>0,03</td></tr>
<tr><td>Preparation for examination</td><td>15</td><td>0,5</td></tr>
<tr><td>In total:</td><td>79</td><td>3</td></tr>
</table></td></tr>
<tr><td>Number of contact hours</td><td>Participation in lectures – 15 hrs, in classes – 30 hrs, in examination – 3 hrs, in consultations – total 48 hrs, 1.9 ECTS</td></tr>
</table>

Relationship between subject learning outcomes and veterinary studies learning outcomes	K1 – B.W1 +++; B.W2 +++; B.W4 ++; K2 – B.W3 +++; B.W10 ++; K3 – B.W8 ++ S1 – B.U6 +++; B.U16 +++; S2 – B.U2 ++; S3 - B.U 25 ++; C1 – K1 +++; C2 – K7 +++; K8 ++; C3 – K11 ++;
Impact of selected compounds to final grade	Requirements to pass the module "Pathomorphology 3" - performing at least three autopsies - weight 20%, - completing necropsy protocol - weight 20%, - passing practical necropsy exam - weight 30% -passing practical microscopic exam - weight 30% Final grade in the subject: Final exam - 70% semester grade - module "Pathomorphology 1" - 10% semester grade - module "Pathomorphology 2" - 10% semester grade - module "Pathomorphology 3" - 10%