Module title:	Radiographic anatomy of dog and cat	**ECTS**	**1**
Polish translation:	Anatomia radiologiczna psów i kotów		
Course:	**Veterinary Medicine**		

Module language: English		Stage: JM-FVM	
Form of studies: ■ intramural ☐ extramural	Type of module: ☐ basic ☐ mandatory ■ directional ■ elective	Semester: 7	■ winter semester ☐ summer semester
Academic year:	**Intake 2021/2022**	Catalogue number:	**FVM-V-JMSS-07W-ED04_20**

Module coordinator:	Małgorzata Domino DVM, PhD, DSc
Teachers responsible for the module:	**Academic teachers of the Institute of Veterinary Medicine; Department of Large Animal Disease and Clinic; PhD students in accordance to the internal legal acts; visiting professors; other specialists in the field of study**
Objectives of the module:	The course aims to familiarize students with the principles and radiological nomenclature of small animal radiology with particular consideration of normal variation within dogs and cats. The course aims to prepare students for the proper use of radiological nomenclature and the proper recognition of normal anatomical structures on radiological images. <u>Lectures (15x1 hour):</u> 1. Basics of X-ray image formation and orientation to prepear the proper image description. 2. Basics of X-ray views - the effect of small animal age, breed, and morphological type on the position and conformation of descriptive structures. 3. Radiographic anatomy of head - skull, oral cavity, teeth. 4. Radiographic anatomy of head and neck - nasal cavities, sinuses, larynx, trachea. 5. Radiographic anatomy of spine. 6. Radiographic anatomy of thorax - bronchi and lung. 7. Radiographic anatomy of thorax - diaphragm, mediastinum, and pleural cavity. 8. Radiographic anatomy of thorax - heart and blood vessels. 9. Radiographic anatomy of abdomen - gastrointestinal tract. 10. Radiographic anatomy of abdomen - Glands. 11. Radiographic anatomy of abdomen - Urinary tract. 12. Radiographic anatomy of abdomen - Reproductive tract. 13. Radiographic anatomy of limbs - limbs of growing dogs and cats. 14. Radiographic anatomy of limbs - thoracic limbs of adult dogs and cats. 15. Radiographic anatomy of limbs - pelvic limbs of adult dogs and cats.
Teaching forms, number of hours:	a) Lectures; hours 15
Teaching methods:	Lectures: original multimedia presentations prepared by academic teachers; Detailed schedule and organization of consultations will be defined by the coordinator of the course at the beginning of semester. Consultations 1 hr/week; the consultation schedule will be determined by the course coordinator at the beginning of the semester
Formal prerequisites and initial requirements:	Passing the courses: Animal Anatomy, Animal Physiology, Comparative anatomy, and Topographic anatomy.

Learning effects		Course outcomes:	Learning outcomes relative to the course outcomes	Impact on the course outcomes*
Knowledge:	1	Student knows the nomenclature of anatomical structures, organs, and their descriptive parts in the radiological image.	A.W1, A.W2, A.W20, A.W3, B.W4	3
	2	Student knows the terms determining body axes, directions, and position of anatomical structures, organs, and their descriptive parts on the radiological image.	A.W1, A.W2, A.W20, A.W3, B.W4	3
	3	Student knows the basic radiological views and their application in clinical practice.	A.W1, A.W2, A.W3, B.W4	3
	4	Student knows the species-specific, morphotypes, and racial differences of anatomical structures, organs, and their descriptive parts in the radiological image.	A.W1, A.W2, A.W3	3
Skills:	1	Student can arrange the radiological image for image evaluation.	A.U14, B.U7	3

	2	Student can choose a common imaging technique for the clinical situation.	A.U14, B.U7	3
	3	Student can name the anatomical structures, organs, and their descriptive parts visible in the radiological image.	A.U14, B.U7	3
Competences:	1	Student is aware of the interdisciplinary importance of morphological knowledge in the process of animal health assessment.	KS.4, KS.5, KS.9	2
	2	Student is ready to application of morphological knowledge in professional life.	KS.4, KS.5, KS.9	2
	3	Student is ready to application of morphological knowledge in the critical analysis of radiological images.	KS.4, KS.5, KS.9	2
	4	Student is aware of the need for continuing education and is ready to deepen his/her knowledge using scientific sources.	KS.4, KS.5, KS.8, KS.9	2

Objectives of the module required to obtain learning effects:	The aim is to familiarize students with the principles and radiological nomenclature of small animal radiology with particular consideration of normal variation within dogs and cats. The course aims to prepare students for the proper use of radiological nomenclature and the proper recognition of normal anatomical structures on radiological images
Assessment methods:	Writing exam. In case of unforeseen, unusual circumstances mandatory remote teaching and remote assessment methods might be adopted.
Detail description of assessment methods; Formal documentation of learning outcome:	Written exam in the form of 30 questions single-choice test. Detailed information on passing requirements: For 30 questions single-choice test, each answer is graded 0-1, max. 30 pts: 0 – 15 pts – failed (2) 16 – 18 pts – sufficient (3) 19 – 21 pts – sufficient plus (3.5) 22 – 24 pts – good (4) 25 – 27 pts – very good (4.5) 28 – 30 pts – excellent (5) No extra assessment methods are anticipated. Retake of the exam, in the same form as proper term. In case of unforeseen, unusual circumstances mandatory remote teaching and remote assessment methods might be adopted. eHMS entry. Records collected in the course portfolio i.e. individual records of student results, presence lists, database of oral and written questions, written assessments of the students.
Elements impelling final grade:	Writing exam results: 100%
Teaching base:	Lecture rooms, ambulatory rooms, x-ray room, room with negatoscopes, CT room, MRI room at the Faculty of Veterinary Medicine.

Mandatory and supportive materials :

Obligatory

1. Coulson A., Lewis N. (2008) An Atlas of Interpretative Radiographic Anatomy of the Dog and Cat, Wiley-Blackwell
2. Thrall D., Robertson I. (2023) Atlas of Normal Radiographic Anatomy and Anatomic Variants in the Dog and Cat, Elsevier
3. Muhlbauer M.C., Kneller S. K. (2013) Radiography of the Dog and Cat: Guide to Making and Interpreting Radiographs, Wiley-Blackwell

Supportive

1. Kealy K.J. et al (2010) Diagnostic Radiology and Ultrasonography of the Dog and Cat, Saunders
2. Wolvekamp P. (2005) Atlas of Radiology of the Traumatized Dog and Cat, Schlütersche
3. Thrall E. (2020) Textbook of Veterinary Diagnostic Radiology, Saunders
4. Waibl H. (2004) Atlas of Radiographic Anatomy of the Cat/Anatomie der Katze (Atlas of Radiographic Anatomy of the Dog and Cat), Perey
5. DuPont G.A., DeBowes L.J. (2008) Atlas of Dental Radiography in Dogs and Cats, Saunders

Relevant scientific publications including those of the module coordinator.

ANNOTATIONS

* 3 – complete and detailed, 2 – moderate, 1 – basic.

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:	**30 h**
Total ECTS points, accumulated by students during contact learning:	**1 ECTS**