

Module title:	Rotation – Veterinary laboratory diagnostics	ECTS	2
Polish translation:	Staż kliniczny – Weterynaryjna diagnostyka laboratoryjna		
Course:	Veterinary Medicine		

Module language: English		Stage: JM	
Form of studies: ☒ intramural ☐ extramural	Type of module: ☐ basic ☒ directional ☐ accessory ☒ rotation ☐ summer practice	☒ mandatory ☐ elective	Semester: ...11 Year 6 ☒ winter semester ☐ summer semester
Academic year: 2020/2021		Catalogue number:	FVM-V-JMSS-11W-D67_20

Module coordinator:	dr Karol Pawłowski		
Teachers responsible for the module:	Employees of the Department of Veterinary Laboratory and Clinical Diagnostics		
Unit responsible for the module:	Department of Pathology and Veterinary Diagnostics, Division of Laboratory and Clinical Diagnostics		
Faculty in charge:	Faculty of Veterinary Medicine		
Objectives of the module:	The main objective of this practical course is for students to learn to perform basic hematologic, cytological, immunological and biochemistry diagnostic methods on biological samples such as blood, urine, bodily fluids and airway lavage samples.		
Teaching forms, number of hours:	a) Lab – hematologic and cytological examination: 4 h b) Lab – urine examination: 2 h c) Lab – immunological examination: 7 h d) Exam: 2 h		
Teaching methods:	Work in laboratories under direct supervision of the academic teachers.		
Formal prerequisites and initial requirements:	Equine diseases, Farm animal diseases, Dog and cat diseases		
Learning outcomes:	Knowledge knows the basics of organizing different types of diagnostic laboratories taking into consideration the legal requirements and the appropriate laboratory and analytical equipment as well as the basics of a safe work environment can characterize the basic concepts of quality management systems in analytical laboratories is able to determine the proper method of acquiring, marking, transporting and storing of biological sample materials to the time that the samples reach the laboratory and is able to properly fill out the refer forms can assess critical points that may result in analytical errors can work on basic analytical machines, including analysis of selected hematological and biochemistry values can assess a microscopic picture of blood, bone marrow, urinary sediment, bronchi-alveolar lavage samples and cytological samples of bodily fluids, as well as interpret their results	Skills: knows the principles of handling samples received by the laboratory and is able to assess the analytical quality of the sample and the its proper utilization knows the principles of proper handling of the chemical reagents used in laboratory tests can assess the analytical methods with respect to their sensitivity, specificity as well as accuracy and precision	Competences: can prepare samples and perform an analysis of selected parameters to assess for the immunologic status of animals
Assessment methods:	Written examination of the acquired practical knowledge		
Formal documentation of learning outcomes:	Signed entry into the “Students vacation practice and clinical internship journal”, grade in the eHMS.		

Elements impelling final grade:	1-5: 30% 6-10: 70%
Teaching base:	Classrooms of the Department of Pathology and Veterinary Diagnostics
Mandatory and supportive materials : 1. Diagnostic cytology and hematology of the dog and cat 3rd ed.. R.L. Cowell et al. Mosby 2008. 2. Veterinary Laboratory Medicine M.G. Kerr – Veterinary Laboratory Medicine Backwell Science Ltd. 2002 3. Hand out materials and notes	
ANNOTATIONS Student's Daybook of Summer Practice and Clinical Training	

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

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 course outcomes*)
Knowledge/Skills/Competence	knows the basics of organizing different types of diagnostic laboratories taking into consideration the legal requirements and the appropriate laboratory and analytical equipment as well as the basics of a safe work environment	W_NK8, U_OUZ8, U_OUZ9, U_OUZ13, U_OUZ14, U_PUZ19, K_KP14	3
Knowledge/Skills/Competence	can characterize the basic concepts of quality management systems in analytical laboratories	W_NK8, U_OUZ3, U_OUZ8, U_PUZ17, K_KP11, K_KP6	3
Knowledge/Skills/Competence	is able to determine the proper method of acquiring, marking, transporting and storing of biological sample materials to the time that the samples reach the laboratory and is able to properly fill out the refer forms	W_NK8, U_OUZ1, U_OUZ4, U_PUZ6, U_PUZ19	3
Skills -	knows the principles of handling samples received by the laboratory and is able to assess the analytical quality of the sample and the its proper utilization	N_PZ6, U_OUZ11, U_PUZ6, U_PUZ19	3
Skills -	knows the principles of proper handling of the chemical reagents used in laboratory tests	U_OUZ11, U_PUZ6	3
Skills	can assess the analytical methods with respect to their sensitivity, specificity as well as accuracy and precision	U_OUZ11, U_PUZ6	3
Knowledge	can assess critical points that may result in analytical errors	W_HZ4, U_PUZ6	3
Knowledge	can work on basic analytical machines, including analysis of selected hematological and biochemistry values	W_NK7, U_PUZ6, U_PUZ7	3
Knowledge	can assess a microscopic picture of blood, bone marrow, urinary sediment, bronchi-alveolar lavage samples and cytological samples of bodily fluids, as well as interpret their results	W_NK4, W_NK7, U_PUZ6, U_PUZ7	3
Knowledge/Skills/Competence	can prepare samples and perform an analysis of selected parameters to assess for the immunologic status of animals	W_NK4, W_NK7, W_NK9, U_PUZ6, U_PUZ7, K_KP9	3

*)

3 – Significant and detailed,

2 – Partial,

1 – Basic,

Kod Wydziału-Kod kierunku-Kod poziomu i formy-numer semestru Z zimowy L letni-numer przedmiotu w planie semestru_rok akademicki, od którego obowiązuje opis / 2019-2020 →19/

WNZ – Wydział nauk o zwierzętach (kod HMS)

ROL	Rolnictwa i Biologii
WET	Medycyny Weterynaryjnej
LES	Leśny
OGR	Ogrodnictwa, Biotechnologii i Architektury Krajobrazu
BIS	Budownictwa i Inżynierii Środowiska
TDR	Technologii Drewna
WNZ	Nauk o Zwierzętach
EKR	Nauk Ekonomicznych
NoZ	Nauk o Żywności
ZCZ	Nauk o Żywieniu Człowieka i Konsumpcji
WIP	Inżynierii Produkcji
ZIM	Zastosowań Informatyki i Matematyki
WNH	Nauk Społecznych

ZT – zootechnika

A	architektura krajobrazu
B	biologia
BD	budownictwo
BT	biotechnologia
BW	bioinżynieria zwierząt
BZ	bezpieczeństwo żywności
D	dietetyka
E	ekonomia
ER	ekologiczne rolnictwo i produkcja żywności
F	finanse i rachunkowość weterynaria
GH	gastronomia i hotelarstwo
GP	gospodarka przestrzenna
H	hodowla i ochrona zwierząt towarzyszących i dzikich
IB	inżynieria systemów biotechnicznych
IE	informatyka i ekonometria
IG	inżynieria i gospodarka wodna
IK	inżynieria ekologiczna
IN	informatyka
IS	inżynieria środowiska
L	logistyka
LS	leśnictwo
M	meblarstwo
O	ogrodnictwo
OR	ochrona zdrowia roślin
OS	ochrona środowiska
P	pedagogika
R	rolnictwo
S	socjologia
TD	technologia drewna
TE	technologie energii odnawialnej
TU	turystyka i rekreacja
TB	towaroznawstwo w biogospodarce
TZ	technologia żywności i żywienie człowieka
W	weterynaria
W-N	weterynaria weterynaria
Z	zarządzanie
ZC	żywienie człowieka i ocena żywności
ZP	zarządzanie i inżynieria produkcji
ZT	zootechnika

1Z – studia I stopnia niestacjonarne

1S – I st., stacjonarne;

2S – II st., stacjonarne;

2Z – II st., niestacjonarne