

Module title:	Management of laboratory animal facility	ECTS	1
Polish translation:	Zarządzanie zwierzętarnią doświadczalną		
Course:	Veterinary Medicine		

Module language: English		Stage: JM-FVM	
Form of studies: <input checked="" type="checkbox"/> intramural <input type="checkbox"/> extramural	Type of module: <input type="checkbox"/> basic <input checked="" type="checkbox"/> directional	<input type="checkbox"/> mandatory <input checked="" type="checkbox"/> elective	Semester: 7 <input checked="" type="checkbox"/> winter semester <input type="checkbox"/> summer semester
Academic year:		Intake 2021/2022	Catalogue number: FVM-V-JMSS-07W- ED05_20

Module coordinator:	Dr. Łukasz Kiraga, DVM
Teachers responsible for the module:	Dr. Łukasz Kiraga, DVM
Objectives of the module:	<p>The module aims to familiarize students with the principles of work at the position of animal facility manager and to indicate the role of the veterinary surgeon in the health monitoring of laboratory animals and providing animal welfare. The course will also introduce students to legal and ethical regulations for conducting <i>in vivo</i> experiments. In addition, the elective will provide information on the biology and maintenance of laboratory animals, the concept of a sanitary barrier in an establishment, and the principles of microbiological monitoring sampling.</p> <p>Course content:</p> <ul style="list-style-type: none"> • introduction to <i>in vivo</i> experimentation <ul style="list-style-type: none"> ○ drug development pipeline ○ number of animals of each species used in procedures worldwide ○ legal and ethical issues ○ advisory organisations ○ basic definitions related to <i>in vivo</i> experimentation • Biology of the experimental animals and rules for their maintenance <ul style="list-style-type: none"> ○ mouse ○ rat ○ guinea pig ○ Syrian and Chinese hamster ○ rabbit ○ Mongolian gerbil ○ degu ○ dog ○ cat ○ pig ○ short-tailed opossum ○ xenopus ○ zebrafish • Requirements for establishment and for the care and housing of animals <ul style="list-style-type: none"> ○ principles of animal facility design ○ animal caging systems ○ waste storage ○ HVAC ○ sanitary barrier and biosecurity • Hygienic status of laboratory animals • Health monitoring of laboratory animals <ul style="list-style-type: none"> ○ biological sample collection ○ FELASA guidelines • Animal welfare <ul style="list-style-type: none"> ○ "5 freedoms" rule ○ environmental enrichments • Animal records • "3R principle" <ul style="list-style-type: none"> ○ replacement ○ reduction ○ refinement • Alternative approaches • Severity classification of procedures • Principles of performing selected <i>in vivo</i> procedures

		<ul style="list-style-type: none"> Principles of humane animal killing Specifics of the work of the animal facility manager 		
Teaching forms, number of hours:		a) Lectures; hours 15 b) Preparation for the test; hours 10		
Teaching methods:		Lectures (15 h) in the form of multimedia presentations, discussion 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:		Animal physiology, Veterinary microbiology, Ethology, Animal husbandry and breeding, Animal Nutrition and Feeding		
Learning effects		Course outcomes:	Learning outcomes relative to the course outcomes	Impact on the course outcomes*
Knowledge:	1	Student knows and understands the applicable legislation on the protection of laboratory animals	B.W7	3
	2	Student understands the ethical issues of conducting <i>in vivo</i> experiments	A.W22	2
	3	Student knows the environmental and nutritional requirements of laboratory animals	B.W11, B.W13	3
	4	Student knows the biology of the most important species of laboratory animals and the principles of their maintenance and breeding	B.W11, B.W12, B.W13	3
	5	Student knows the principles of biosecurity and providing hygienic and sanitary standards in the establishment	A.W13, B.W3	3
	6	Student knows the conditions for appropriate utilisation and disposal of animal waste from scientific experiments	B.W15	1
Skills:	1	Student can manage the laboratory animal facility emphasizing the health of the animals maintained in it	B.U1, B.U2, B.U5	3
	2	Student can prevent and monitor microbiological hazards	B.U25	3
	3	Student can collect biological samples to conduct microbiological monitoring	B.U6	3
	4	Student can implement the rules that provide proper animal welfare	A.U19, B.U20	3
Competences:	1	Student is ready to manage animal facility personnel and organise work	KS.1, KS.2, KS.3, KS.9	3
Objectives of the module required to obtain learning effects:		The module aims to familiarize students with the principles of work at the position of animal facility manager and to indicate the role of the veterinary surgeon in the health monitoring of laboratory animals and providing animal welfare. The course will also introduce students to legal and ethical regulations for conducting <i>in vivo</i> experiments. In addition, the elective will provide information on the biology and maintenance of laboratory animals, the concept of a sanitary barrier in an establishment, and the principles of microbiological monitoring sampling.		
Assessment methods:		Written single-choice test, 30 questions Retake - oral answer with the subject coordinator 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:		Each answer is graded 0-1, max. 30 pts: results: 0-15 pts 2 (failed) 16-20 pts 3 (sufficient) 21-22 pts 3.5 (sufficient +) 23 - 25 pts 4 (good) 26 - 27 pts 4.5 (very good) 28 - 30 pts 5 (excellent) Retake - oral answer with the subject coordinator No extra assessment methods are anticipated. 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:		Test results: 100%		
Teaching base:		Lecture facilities of the Faculty of Veterinary Medicine		

Mandatory materials :

1. DIRECTIVE 2010/63/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 September 2010 on the protection of animals used for scientific purposes
2. Wolfensohn S., Lloyd M: Handbook of Laboratory Animal Management and Welfare, 4th Edition. *Willey Blackwell* (2013).

Supportive materials:

3. Sirois M.: Laboratory Animal and Exotic Pet Medicine, Principles and Procedures, 2nd Edition. Elsevier (2016).
4. Colby L., Nowland M., Kennedy L.: Clinical Laboratory Animal Medicine: an Introduction, 5th Edition, Wiley Blackwell (2019).

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