Module of classes:

VETERINARY GENETICS

ECTS	**3**
Status	**obligatory**
Form of final credit	**graded credit**
Prerequisites	**none**

Field of study:

VETERINARY SCIENCE

Profile of study	**General-academic**
The code of the form of study and the level of study	**Master**
Semester of study	**winter/summer**
Language of study	**English**

The leading faculty, department and the lecturer of the module:

Name of the competent unit for the coordinator	**Faculty of Animal Sciences, Department of Genetics, Animal Breeding and Ethology**
Courese coordinator	**dr inż. Sylwia Pałka, dr inż. Łukasz Migdał, prof. URK**

Learning outcomes of the module/subject

The code of the description component (symbol of the effect)	Description	Relation to (code)	
		field effect	discipline#
	KNOWLEDGE – the student knows and/or understands:		
VG_W1	genetics law, localization of genes, basic od heredity, carriers identification	A.W14	RW
	SKILLS – the student can:		
VG_U1	perform analysis of genetic tests, perform analysis of nucleic acids and perform PCR	A.U2, A.U9	RW
VG_U2	develop knowledge and skills which are necessary in veterinary practise	A.U21	RW
	SOCIAL COMPETENCE- the student is ready to:		
VG_K1	understands the need for systematic work on finding and understanding new informations about molecular methods/molecular basis of traits	O.K1, O.K8, O.K9	RW

Teaching content:

Lectures	**15**	**hours**

Subjects of lectures	I and II Mendel's law of inheritance Influence of environment on traits, allelic and non-allelic interaction, Qualitative vs. Quantitative Traits DNA and RNA - replication, transcription and translation Mutations and their role in traits development and diseases.
Realized learnin	VG_W1
Verification methods and criteria of effects	*Short question, multiple choice questions (100-95% - 5.0; 94-86% - 4.5; 85-76% - 4.0; 75-66% - 3.5; 65-60%-3.0)*

Classes - laboratories and auditorium exercises	**24**	**hours**

Subjects of the classes	1. I Mendel's law and types of inheritance on livestock 2. II Mendel's law and interaction between genes 3. Population genetics. Genes and genotypes frequency. Genetic structure of populations 4. Collection, preservation and storage of biological samples 5. DNA isolation and qualty analysis 6. PCR and types of PCR 7. Analysis of mutations - PCR-RFLP and PCR-HRM 8. Different molecular methods used in veterinary and husbandry (Marked assisted selection, genomic selection disease identification)
Realized learnin	*VG_U1, VG_U2, VG_K1*
Verification methods and criteria of effects	*Two tests - Short question, multiple choice questions (100-95% - 5.0; 94-86% - 4.5; 85-76% - 4.0; 75-66% - 3.5; 65-60%-3.0)*

Seminars	**…**	**hours**

Subjects of the seminars	
Realized learnin	
Verification methods and criteria of	

Literature:

Basic	*Genomes 4. T.A. Brown, Garland Science, 4rd edition, 2017.*
Supplementary	

Structure of learning outcomes:

Dyscipline – veterinary (RW)			*3*	ECTS*
Dyscipline –…			…	ECTS*

Structure of student's activities:

classes carried out with direct	43	hours	1,7	ECTS*

including:	lectures	15	hours		
	classes and seminars	24	hours		
	consultations	2	hours		
	participation in research	0	hours		
	mandatory practices and internships	0	hours		
	participation in the exam and credits	3	hours		
classes carried out with the use of e-learning		0	hours	0	ECTS*
student's own work		31	hours	1,3	ECTS*

Syllabus valid from the academic year 2019/2020

) * - Reported to the nearest to 0,1 ECTS, where 1 ECTS = 25-30 hours of classes

) # discipline code: RZ - zootechnics and fishery, PB - biological sciences