Course code: 06-EMS-GENET-SP1/ 06-EMS-GENET-SP2 **Plan position:** ……

1. INFORMATION ABOUT THE COURSE

A. Basic information

Name of course	Genetics
Field of studies	
Level of studies	
Profile of studies	general academic
Form of studies	
Specialty	
Unit responsible for the field of studies	Faculty of Animal Breeding and Biology, Department of Biotechnology and Animal Genetics
Name and academic degree of teacher(s)	PhD Magdalena Kolenda PhD Beata Sitkowska, prof. PBS
Introductory courses	
Introductory requirements	

B. Semester/week schedule of classes

Semester	Lectures (W)	Auditorium classes (Ć)	Laboratory classes (L)	Project classes (P)	Seminar (S)	Field classes (T)	Number of ECTS points
Winter / summer			35				7

2. LEARNING OUTCOME

No.	Learning outcomes description	The reference to the learning outcomes of specific field of study	The reference to the learning outcomes for the area
KNOWLEDGE			
W1	Student knows the molecular basis of genetic information, including nucleic acid structure, genome organization, gene structure, and mechanisms of DNA replication and gene expression.		
W2	Student has the knowledge of principles of genetic variation and inheritance, including Mendelian patterns, population genetics.		
SKILLS			
U1	Student analyzes and interprets patterns of inheritance using Mendelian principles and pedigree data.		
SOCIAL COMPETENCES			

K1	Student is open to the use of modern methods in the field of genetics, is able to apply the acquired knowledge in his/hers professional work.		

3. TEACHING METHODS

Presentations, discussions, exercises

4. METHODS OF EXAMINATION

Colloquium

5. SCOPE

Laboratories	Introduction to genetics and basic concepts, Molecular basis of genetic information - nucleic acids structure, genetic code, DNA replication. Genome organization and gene structure. Genetic variation. Gene expression. Karyotype, nuclear division. Genetics in health, disease. Genetic and genomic analysis methods. Mendelian genetics and inheritance patterns. Pedigrees – analysis and construction. Population genetics.

6. METHODS OF VERIFICATION OF LEARNING OUTCOMES

LEARNING OUTCOME	Form of assessment					
	Oral examination	Written exam	Colloquium	Project	Presentation	……
W1			X			
W2			X			
U1			X			
K1			X			

7. LITERATURE

Basic literature	Ramroop Singh N. 2023. Introduction to Genetics. THOMPSON RIVERS UNIVERSITY KAMLOOPS, BC, https://opengenetics.pressbooks.tru.ca/ Genomes – Brown, T. A. (2017). Genomes 4. Garland Science.
Supplementary literature	

8. TOTAL STUDENT WORKLOAD REQUIRED TO ACHIEVE EXPECTED LEARNING OUTCOMES EXPRESSED IN TIME AND ECTS CREDITS

Student's activity		Student workload– number of hours
Classes conducted under a direct supervision of an academic teacher or other persons responsible for classes	Participation in classes indicated in point 1B	35
	Supervision hours	5
	Preparation for classes	60

Student's own work	Reading assignments	35
	Other (preparation for exams, tests, carrying out a project etc)	40
Total student workload		175
	Number of ECTS points	7