

Subject card

Subject name and code	Basics of conservation genetics, PG_00154473						
Field of study	Biology						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2026/2027		
Education level	undergraduate studies		Subject group		Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish Polish		
Semester of study	6		ECTS credits		1.0		
Learning profile	academic		Assessment form				
Conducting unit	Katedra Genetyki Ewolucyjnej i Biosystematyki -> Faculty of Biology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Agnieszka Kaczmarczyk-Ziemba				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	15.0	0.0	0.0	0.0	15
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	15		2.0		8.0	25
Subject objectives	</						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOLL3_U03] The graduate, under the guidance of a mentor, is able to carry out simple tasks or research expertise typical of the biological sciences	Student, under the guidance of a mentor, plans and carries out simple research tasks in the field of conservation genetics.	[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report [SU5] implementation of a problem task
	[BIOLL3_W02] The graduate knows the structure and properties of biological macromolecules, the molecular mechanisms of basal metabolic pathways and genetic information flow and the sources of variation in organisms; the rules of inheritance	Student describes the mechanisms of flow of genetic information and regulation of its expression, explains the rules of inheritance and the sources of variation in organisms.	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion [SW5] implementation of a problem task
	[BIOLL3_W11] The graduate knows the basic methods of statistical analysis and their importance in the interpretation of phenomena and processes	Student has knowledge of the use of statistical methods and their importance in the interpretation of phenomena.	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion
	[BIOLL3_W12] The graduate knows and understands the principles of using IT tools for data analysis and interpretation of natural phenomena and processes	Student is familiar with the use of IT tools for data analysis and interpretation of phenomena.	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion
	[BIOLL3_K09] The graduate will be able to use the knowledge acquired to plan and organise professional activities and to think and act in an entrepreneurial way	Student is ready to apply the acquired theoretical knowledge in the design of conservation efforts.	[SK8] observation of student's independent or team work
	[BIOLL3_K01] The graduate is prepared to evaluate their own knowledge, understand the need for continuous learning and development, and is open to new ideas	Student understands the need for continuous learning and development and is open to new ideas.	[SK8] observation of student's independent or team work
	[BIOLL3_U04] The graduate will be able to apply statistical methods and computer algorithms and techniques to the description of phenomena and the analysis of biological data	Student applies basic statistical methods and bioinformatics techniques and bioinformatic tools to describe phenomena and analyse biological data.	[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report [SU5] implementation of a problem task
Subject contents	Population genetic structure. Genetic equilibrium. Evolution in populations: natural selection. Methodology in applied genetics in conservation efforts. Genetic variability: measures, significance in time and space. Genetic, demographic and environmental factors in biodiversity conservation. Effects of population reduction. Inbreeding depression. Population fragmentation. Gene flow between populations. Causes of species extinction. The relationship between loss of genetic variation and extinction. Genetics and the future of endangered species. Conservation units: evolutionary significant and management units. Reintroductions.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	final colloquium	51.0%	100.0%
Recommended reading	Basic literature	Used in class: - Charon K.M., Świtoński M. Genetyka i genomika zwierząt. PWN Warszawa, 2019. - Fletcher H., Hickey I., Winter P. Krótkie wykłady Genetyka. PWN Warszawa, 2019. - Douda K., Sell J., Kubíková-Peláková L., Horký P., Kaczmarczyk A., Mioduchowska M. 2014. Host compatibility as a critical factor in management unit recognition: population-level differences in mussel-fish relationships. Journal of Applied Ecology, 51(4): 1085-1095. Studied independently by the student: - Research articles selected by the teacher and made available to students.	
	Supplementary literature	Hartl D.L., Clark A.G. Podstawy genetyki populacyjnej. Wydawnictwo Uniwersytetu Warszawskiego, Warszawa 2010 Frankham R., Ballou J.D., Briscoe D.A. Introduction to conservation genetics. Cambridge University Press, Cambridge, 2010	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	conservation efforts for the populations of thick-shelled river mussel <i>Unio crassus</i> inhabiting Biała Tarnowska river		
Work placement	Not applicable		

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