

Subject card

Subject name and code	Contemporary methods in animal taxonomy, PG_00196857						
Field of study	Biology						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2028/2029		
Education level	Bachelor's studies	Subject group			Obligatory subject group in the field of study Optional subject group		
Mode of study	full-time studies	Mode of delivery			at the university		
Year of study	3	Language of instruction			Polish		
Semester of study	6	ECTS credits			1.0		
Learning profile	academic	Assessment form			credit		
Conducting unit	Laboratory of Biosystematics and Ecology of Aquatic Invertebrates -> Department of Evolutionary Genetics and Biosystematics -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Tadeusz Namiotko				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	15.0	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		3.0		7.0	25
Subject objectives	Introducing students to the issues of contemporary research methods in animal taxonomy. Learning the basic techniques and stages of analysis of morphological and molecular data.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[BIOLL3_U04] The graduate is able to apply statistical methods and computer algorithms and techniques to the description of phenomena and the analysis of biological data	The student applies basic statistical methods, algorithms and IT techniques to analyze biological data			[SU2] presentation/project/paper/report		
	[BIOLL3_U01] The graduate is able to use basic apparatus and research tools and follow the correct sequence of operations in laboratory and field work	The student uses basic research equipment and tools and has knowledge of laboratory work used in taxonomic research			[SU5] implementation of a problem task		
	[BIOLL3_W14] The graduate has an advanced understanding of experimental methods and the most important techniques used in the biological sciences	The student explains the principles of operation of basic research methods in animal taxonomy			[SW4] test/exam - oral or written		
	[BIOLL3_W10] The graduate is familiar with the development and current state of knowledge and the latest trends in biology, as well as their relationship with other natural disciplines	The student understands the advantages, disadvantages and limitations of individual methods used in animal taxonomy			[SW4] test/exam - oral or written		
	[BIOLL3_K06] The graduate is prepared to take responsibility for the entrusted equipment/materials and for his/her own work and the work of others	The student is responsible for the entrusted equipment/materials and his/her own work and respects the work of others			[SK8] observation of student's independent or team work		

Subject contents	Introducing to the basic stages of taxonomic research. Selected methods of phenetic analysis of morphological data. Introducing to basic molecular methods used in animal taxonomy along with statistical methods of sequence data. Basics of phylogenetic inference.		
Prerequisites and co-requisites	Formal requirements: none Entry requirements: none		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	attendance	100.0%	0.0%
	completing sets of tasks	51.0%	100.0%
Recommended reading	Basic literature	Brown T. A. 2001. Genomes. PWN Scientific Publishing House, Warsaw. Falniowski A. 2003. Numerical methods in taxonomy. Jagiellonian University Publishing House, Cracow. Hall B.G. 2008. Phylogenetic trees made easy. User Guide. Ed. Univ. of Warsaw, Warsaw. Hills D. M. et al. (ed.). 1996. Molecular systematics. Sinauer Associates, Sunderland, MA.	
	Supplementary literature	Danielopol D.L., Namiotko T., Horne D.J. 2022. Accidental monstrosities: Taxonomic chimeras in Ostracoda (Crustacea). Zootaxa, 5116 (2): 151-199. Sosa F.M., Pilot M. 2023. Molecular mechanisms underlying vertebrate adaptive evolution: A systematic review. Genes, 14(2), 416.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Constructing a dichotomous key for identifying six fictional species. Constructing a phenogram using the UPGMA method.		
Work placement	Not applicable		

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