

Subject card

Subject name and code	Zoology of invertebrates - laboratory exercises, PG_00129037						
Field of study	Biology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	1		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Katedra Zoologii Bezkręgowców i Parazytologii -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Marta Zakrzewska				
	Teachers		dr Katarzyna Faleńczyk-Koziróg dr Sonia Zięba dr Błażej Bojarski dr Karolina Cierocka dr Marta Zakrzewska				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	0.0	0.0	30
	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	30		2.0		18.0	50
Subject objectives	1. The knowledge of the major types of invertebrate animals and protists (Protozoa). 2. An understanding of the principal mechanisms and trends in the evolution of the animals discussed. 3. The capacity to distinguish the main categories of animals studied.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOLL3_W06] The graduate will know the characteristics, systematics and understand the evolution of selected groups of organisms including molecular basis and basic concepts and mechanisms of evolution	The student presents the characteristics, systematics and evolution of selected groups of invertebrates.	[SW4] test/exam - oral or written
	[BIOLL3_W03] The graduate knows the structure and functional relationships at the cellular, tissue, organ and organismal levels	The student presents the structural characteristics of the various types of invertebrates, with particular attention to functional relationships at the cellular (Protista), tissue, organ, and organismal levels.	[SW4] test/exam - oral or written
	[BIOLL3_U08] The graduate is able to learn independently, in a focused manner	The student learns independently by preparing the indicated issues.	[SU1] oral statement/conversation/discussion [SU4] test/exam - oral or written [SU5] implementation of a problem task
	[BIOLL3_U07] The graduate should be able to independently search for and use available sources of biological information, including electronic sources	The student independently searches for and uses available sources of biological information, including electronic sources.	[SU1] oral statement/conversation/discussion [SU3] text preparation/written work [SU5] implementation of a problem task
	[BIOLL3_U06] The graduate can read with comprehension scientific biological texts in Polish and simple texts in English	The student independently searches for and uses available sources of biological information, including electronic sources.	[SU1] oral statement/conversation/discussion [SU3] text preparation/written work [SU5] implementation of a problem task
	[BIOLL3_U02] The graduate will be able to make observations individually and in teams, and carry out basic physical, biological and chemical measurements in the field or laboratory	The student makes biological observations on the structure and function of invertebrate organisms.	[SU1] oral statement/conversation/discussion [SU3] text preparation/written work [SU6] demonstration of practical skills [SU8] observation of student's independent or team work
	[BIOLL3_U01] The graduate will be able to use basic apparatus and research tools and follow the correct sequence of operations in laboratory and field work	The student uses basic apparatus and research tools used in invertebrate systematics and follows the correct sequence of operations in laboratory work.	[SU5] implementation of a problem task [SU8] observation of student's independent or team work
	[BIOLL3_K07] The graduate is prepared to apply the principles of bioethics consciously	The student consciously applies the principles of bioethics.	[SK1] oral statement/conversation/discussion [SK8] observation of student's independent or team work
	[BIOLL3_K06] The graduate is prepared to take responsibility for the equipment/materials entrusted to them and for their own work and that of others	The student is responsible for the equipment/materials entrusted and their own work and respects the work of others.	[SK1] oral statement/conversation/discussion [SK8] observation of student's independent or team work
Subject contents	A review of selected systematic groups of invertebrates (characteristics and systematic position) with particular reference to domestic species. A consideration of the human use of invertebrates and their economic importance and role in nature.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	colloquium II	51.0%	25.0%
	attendance	93.0%	0.0%
	practical assessment	51.0%	25.0%
	colloquium I	51.0%	25.0%
	entry tests	51.0%	25.0%
Recommended reading	Basic literature Literature used in class: Błaszak C. (red.) 2009, 2011, 2015. Zoologia, t. 1-3. PWN, Warszawa. Czapik A. 1992. Podstawy protozoologii. Wyd. 2. PWN, Warszawa. Grabda E. (red.) 1989. Zoologia bezkręgowce, t. 1. PWN, Warszawa. Literature studied independently by the student: Błaszak C. (red.) 2009, 2011, 2015. Zoologia, t. 1-3. PWN, Warszawa. Czapik A. 1992. Podstawy protozoologii. Wyd. 2. PWN, Warszawa. Grabda E. (red.) 1989. Zoologia bezkręgowce, t. 1. PWN, Warszawa. Moraczewski J., Riedel W., Sołtyńska M., Umiński T. 1984. Ćwiczenia z zoologii bezkręgowców. PWN Warszawa.		

	Supplementary literature	Brusca R.C., Moore W., Shuster S.M. 2016. Invertebrates. 3rd Edition. Sinauer Associates Inc. Publishers, Sunderland, MA. Dogiel W.A. 1986. Zoologia bezkręgowców. PWRiL Warszawa. Dzik J. 2015. Zoologia. Różnorodność i pokrewieństwa zwierząt. WUW, Warszawa. Gębicki C., Szewdo J. 2000. Owady Polski. Klucz i atlas. Kubajak, Krzeszowice. Giłka W., Zakrzewska M. 2013. A contribution to the systematics of Neotropical Tanytarsus van der Wulp: first descriptions from Ecuador (Diptera: Chironomidae: Tanytarsini). Zootaxa 3619: 453:459. Giribet G., Edgecombe G.D. 2020. The Invertebrate Tree of Life. Princeton University Press, Princeton, NJ. Grabda E. (red.) 1989. Zoologia bezkręgowce, t. 2-5, PWN, Warszawa. Jura C. 2007. Bezkręgowce. Podstawy morfologii funkcjonalnej, systematyki i filogenezy. PWN, Warszawa. Moore J. 2009. Wprowadzenie do zoologii bezkręgowców. WUW, Warszawa. Urbanek A. 2007. Jedno istnieje tylko zwierzę Myśli przewodnie biologii porównawczej. Muzeum i Instytut Zoologii PAN, Warszawa.
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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