University of Gdańsk

Subject card

Subject name and code	Zoology of invertebrates - laboratory exercises, PG_00129037		
Field of study	Biology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	undergraduate 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	
Conducting unit	Katedra Zoologii Bezkręgowców i Parazytologii -> Faculty of Biology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Marta Zakrzewska	
	Teachers	mgr Błażej Bojarski dr Katarzyna Faleńczyk-Koziróg mgr 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_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_U06] The graduate can read with comprehension simple 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_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_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_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_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
[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

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
entry tests	51.0%	25.0%
colloquium I	51.0%	25.0%
practical assessment	51.0%	25.0%
attendance	93.0%	0.0%
colloquium II	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., Szwedo 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	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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