

Subject card

Subject name and code	Biology, PG_00144445						
Field of study	Environmental Protection						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2024/2025		
Education level	Bachelor's studies	Subject group			Obligatory subject group 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	2	ECTS credits			4.0		
Learning profile	academic	Assessment form			credit		
Conducting unit	Laboratory of Parasitology and General Zoology -> Katedra Zoologii Bezkręgowców i Parazytologii -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Sławomira Fryderyk				
	Teachers		dr Sławomira Fryderyk dr Paulina Kozina dr Karolina Cierocka dr Joanna Dzido				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	60.0	0.0	0.0	60
	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	60		10.0		30.0	100
Subject objectives	1 To learn the fundamentals of the structure, biology and classification of living organisms. 2 To understand the biological processes that determine life at different levels of its organisation. 3. To be able to recognise and classify different groups of organisms.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[OŚL3_K05] Identifies the level of her/his knowledge and skills, demonstrates the need to update knowledge about the environment and its protection, demonstrates the need for continuous professional training and personal development.	Understands the need for further education, updating knowledge of the environment and its protection	[SK1] oral statement/conversation/discussion [SK8] observation of student's independent or team work
	[OŚL3_W01] Discusses the basic concepts of mathematics, physics, chemistry and biology. Describes physical, chemical and biological phenomena occurring in nature as well as geological, geomorphological and climatic conditions of the functioning of nature.	Knows and discusses basic concepts in biology. Demonstrates structure and functional relationships at cellular, tissue, organ and organismal levels.	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion
	[OŚL3_U07] Uses basic laboratory techniques, conducts field research and performs qualitative and quantitative analyses and draws conclusions on this basis for practical purposes.	Demonstrates the ability to identify selected organisms, tissues and cells. Follows basic preparation procedures when identifying research material including plants, animals, tissues and cells.	[SU1] oral statement/conversation/discussion [SU3] text preparation/written work [SU6] demonstration of practical skills [SU8] observation of student's independent or team work
	[OŚL3_K04] Demonstrates responsibility for the safety of her/his own and others' work and for the workplace, and correctly follows the rules of conduct in emergencies.	He is responsible for the safety of his own work and that of others and the workplace and knows how to deal with emergencies.	[SK1] oral statement/conversation/discussion [SK8] observation of student's independent or team work
	[OŚL3_U11] Uses statistical methods as well as algorithms and IT techniques, including application software packages to describe environmental experiments and analysis of typical data in socio-economic activities based on science and natural sciences.	Demonstrates the ability to operate basic optical equipment (stereo microscope, transmission light microscope, measuring and image/data analysis apparatus) used in biological research. Uses a computer coupled to an image analysis device to study and observe biological objects.	[SU3] text preparation/written work [SU6] demonstration of practical skills [SU8] observation of student's independent or team work
	[OŚL3_W13] Defines the basic principles of occupational safety, ergonomics and hygiene.	Understands the basic principles related to health and safety in a biological laboratory	[SW1] oral statement/conversation/discussion [SW5] implementation of a problem task
Subject contents	Review of the most important systematic groups of organisms, taking into account different construction plans.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	colloquium I	51.0%	25.0%
	colloquium II	51.0%	25.0%
	attendance	87.0%	0.0%
	practical assessment	51.0%	25.0%
	entry tests	51.0%	25.0%
Recommended reading	Basic literature	<ul style="list-style-type: none"> • Błaszak C. [red.] 2009 - 2020. Zoologia, t.1-3. PWN, Warszawa. • Boczek J., Brzeski M., Kropczyńska-Linkiewicz D. 2000. Wybrane działy zoologii. Podręcznik dla studiujących ochronę środowiska. PWN, Warszawa. • Campbell N.A., Reece J.B., Urry L.A., Cain M.L., Wasserman S.A., Minorsky P.V., Jackson R.B. 2014. Biologia. Rebis, Poznań. • Gorczyński T. [red.]. 1986. Ćwiczenia z botaniki. PWN, Warszawa. • Grodziński Z. 1979. Zoologia Strunowce i Przedstrunowce. PWN, Warszawa. • Jura C. Bezkręgowce. 2007. PWN, Warszawa. • Moraczewski J., Riedel W., Sołtyńska M., Umiński T. 1974. Ćwiczenia z zoologii bezkręgowców, PWN, Warszawa. • Szwejkowska A., Szwejkowski J. 2016. Botanika. PWN, Warszawa. 	

	Supplementary literature	<ul style="list-style-type: none"> • Encyklopedia biologiczna. T.I-XIII. OPRES, Kraków, 2000. • Gajewski W. 1992. Genetyka. PWRiL, Warszawa. • Głowaciński Z. [red.] 2001. Polska czerwona księga zwierząt. Kręgowce. PWRiL, Warszawa. • Jasiński A. 1984. Zootomia kręgowców. PWN, Warszawa. • Kunicki-Goldfinger W. J. H. 1980. Podstawy biologii od bakterii do człowieka. PWN, Warszawa. • Malinowski E. 1983. Anatomia roślin. PWN, Warszawa. • Podbielkowski Z. 1990. Rozmnażanie się roślin. WSiP, Warszawa. • Rajski A. 1994. Zoologia. T. I i II. PWN, Warszawa. • Villee C.A., Solomon E.P., Berg L.R., Martin D.W. 2011. Biologia. Multico, Warszawa. • Zawistowski S. 1990. Zarys histologii. PZWL, Warszawa.
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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