

Subject card

Subject name and code	Invertebrates of urbanized areas, PG_00143488						
Field of study	Natural Resources Conservation						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group 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	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		2.0		
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		dr Agata Szwarc				
	Teachers						
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	Introducing students to practical methods of collecting and identifying aquatic and terrestrial invertebrates inhabiting urban areas, with particular emphasis on field research planning and material analysis.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[OZPL3_U01] The graduate is able to use basic apparatus and research tools, maintains the correct sequence of operations in laboratory and field work and apply the principles of savoir-vivre in practice	The student uses basic research equipment and methods and maintains the appropriate sequence of activities in laboratory and field work used during research on invertebrate animals.	[SU6] demonstration of practical skills
	[OZPL3_W13] The graduate has an advanced understanding of the rules, methods, and techniques of environmental research and their potential applications in nature conservation	The student presents basic methods and techniques for conducting research on invertebrate animal populations in urban environments and the possibilities of their use in assessing environmental quality.	[SW4] test/exam - oral or written
	[OZPL3_U04] The graduate is able to plan and carry out simple research tasks in the biological sciences under the guidance of a supervisor	The student plans and performs research tasks in the urban environment regarding invertebrate animals under the supervision of a supervisor.	[SU2] presentation/project/paper/report
	[OZPL3_W06] The graduate has an advanced understanding of the names and types of natural environments, including their structural and functional characteristics	The student has knowledge about aquatic and terrestrial invertebrate animals in urban areas and understands the interactions between them and the environment.	[SW4] test/exam - oral or written
	[OZPL3_K08] The graduate is ready to systematically update his/her natural knowledge and to apply it in practice	The student systematically updates knowledge about invertebrate animals and is able to use it to assess the diversity of the urban environment.	[SK8] observation of student's independent or team work
Subject contents	Methods of collecting aquatic and terrestrial invertebrates. Collection and identification of invertebrates in urban environments. Recognition of traces of invertebrate presence (e.g., feeding, reproduction). Assessment of the state (abundance, density) of invertebrate populations in urban environments. Principles of using aquatic invertebrates for assessing the quality of inland waters.		
Prerequisites and co-requisites	Formal requirements: none Entry requirements: none		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	identification of invertebrates	51.0%	50.0%
	test	51.0%	50.0%
	attendance	85.0%	0.0%
Recommended reading	Basic literature	Keys for identifying insects in Poland, part 1-29. Polish Entomological Society, 1954-2013. Kolada A. ed., 2020. Manual for monitoring biological elements and classifying the ecological status of surface waters. Environmental Monitoring Library, Warsaw. Tończyk G., Siciński J. ed., 2013. Key to the determination of benthic macroinvertebrates for the purposes of assessing the ecological status of surface waters. Environmental Monitoring Library, Warsaw.	
	Supplementary literature	Sutherland W. J. (red.), 2006. Ecological census techniques: a handbook. Cambridge University Press, Cambridge.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Identification of selected invertebrate animals occurring in urban areas (case study)		
Work placement	Not applicable		

Document generated electronically. Does not require a seal or signature.