University of Gdańsk

Subject card

Subject name and code	Basics of ecotoxicology, PG_00198104		
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 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	3	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	dr hab. Anna Iglikowska	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	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

Familiarizing students with the ecological consequences of toxic substances

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OZPL3_U03] The graduate is able to search for and use available sources of biological information, including electronic sources, and critically analyse them	- the student independently searches for and uses available sources of information on ecotoxicology, including electronic sources (O_U03)	[SU1] oral statement/conversation/ discussion [SU8] observation of student's independent or team work
[OZPL3_K08] The graduate is ready to systematically update his/ her natural knowledge and to apply it in practice	- the student demonstrates the need for systematic updating of knowledge on ecotoxicological issues (O_K08)	[SK1] oral statement/conversation/ discussion [SK8] observation of student's independent or team work
[OZPL3_W07] The graduate has an advanced understanding of the methods and means of nature and environmental protection, including nature monitoring	- the student learns about modern research methods used in ecotoxicology, understanding the dependencies of the impact of various toxic substances on phenomena and processes occurring in the environment (O_W07)	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
[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 the possibilities of using ecotoxicological techniques, research methods and standards in the protection of nature and the environment (O_W13)	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion

Subject contents	Objectives of ecotoxicological research, definitions and outline of the history of ecotoxicology. Division of toxic substances in terms of their impact on the biotic environment. Types and effects of toxic substances on organisms, populations and ecosystems. Influence of environmental factors on the effectiveness of toxic substances. Methods of ecotoxicological research. Selected standards and guidelines for assessing the ecotoxicity of chemical substances.	
Prerequisites and co-requisites	basic knowledge of general ecology	
Assessment methods and criteria		

Subject passing criteria	Passing threshold	Percentage of the final grade
Final test	51.0%	100.0%

Recommended reading	Basic literature	A.1. used during lectures Walker C.H., Hopkin S.P., Sibly R.M., Peakal B. 2002. Podstawy ekotoksykologii. PWN, Warszawa. A.2. studied independently by the student Walker C.H., Hopkin S.P., Sibly R.M., Peakal B. 2002. Podstawy ekotoksykologii. PWN, Warszawa. articles dealing with ecotoxicology (e.g., from internet sources)
	Supplementary literature	Bieszke B., Namiotko L., Namiotko T. 2020. Life history traits of a temporary water ostracod Heterocypris incongruens (Crustacea, Ostracoda) are affected by power frequency (50 Hz) electromagnetic environmental pollution. The European Zoological Journal, 87 (1): 148155. Iglikowska A., Humphreys-Williams E., Przytarska J., Chełchowski M., Kukliński P. 2020. Minor and trace elements in skeletons of Arctic echinoderms. Marine Pollution Bulletin, 158 (111377). Laskowski R., Migula P. 2004. Ekotoksykologia od komórki do ekosystemu. PWRiL, Warszawa. Szara-Bąk M., Baran A. Klimkowicz-Pawlas A., Tkaczewska J., Wojtasik B. 2021. Mobility, ecotoxicity, bioaccumulation and sources of trace elements in the bottom sediments of the Rożnów reservoir. Environmental Geochemistry and Health, 43(4): 1-18.
	eResources addresses	

Example issues/ example questions/ tasks being completed	1. Please explain the abbreviations: a) TZO b) OZE c) LD_{50} 2. Briefly describe the ways heavy metals spread in the environment. 3. Persistent organic pollutants: a) do not accumulate in organisms, they decompose in them, b) are excreted from the bodies of organisms, c) are not excreted from the bodies of organisms and do not decompose in them, d) are secreted by organisms, e) accumulate to a small extent, they decompose in organisms.
Work placement	Not applicable

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