



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

Projekt współfinansowany przez
Unię Europejską w ramach
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Społecznego

UNIA EUROPEJSKA
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Course title		ECTS code	
Ecotoxicology		13.3.0507	
Name of unit administrating study			
null			
Studies			
faculty	field of study	type	drugiego stopnia
Wydział Chemii	Chemia	form	stacjonarne
		specjalty	chemia i technologia środowiska
		specialization	wszystkie
Teaching staff			
dr Ewa Mulkiwicz; dr Joanna Dołżonek			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		3	
Laboratory classes, Lecture		classes 45 h	
The realization of activities		tutorial classes 5 h	
classroom instruction		student;s own work 25 h	
Number of hours		TOTAL: 75 h - 3 ECTS	
Laboratory classes: 30 hours, Lecture: 15 hours			
The academic cycle			
2023/2024 summer semester			
Type of course		Language of instruction	
obligatory		Polish	
Teaching methods		Form and method of assessment and basic criteria for eveluation or examination requirements	
<ul style="list-style-type: none"> - conducting experiments - multimedia-based lecture 		Final evaluation	
		<ul style="list-style-type: none"> - Graded credit - Examination 	
		Assessment methods	
		<ul style="list-style-type: none"> - ssignment work – conducting research and presenting results - (mid-term / end-term) test - written exam with open questions - written exam (test) - graded course credit based on individual grades obtained during the semester 	
		The basic criteria for evaluation	
		Lecture:	
		<ul style="list-style-type: none"> • positive evaluation of the written exam covering the issues listed in the lecture program content, grading scale in accordance with the UG studies regulations 	
		Laboratory exercises	
		<ul style="list-style-type: none"> • performance of the experimental part covered by the program of laboratory classes • positive evaluation of partial tests covering topics implemented during laboratory exercises • positive assessment of the final written test consisting of test and open questions covering the issues listed in the content of the laboratory classes 	
Method of verifying required learning outcomes			
Required courses and introductory requirements			
A. Formal requirements			

<p>none</p> <p>B. Prerequisites Basic knowledge in chemistry and natural sciences</p>	
<p>Aims of education</p> <p>To familiarize students with the effects of chemical compounds and their mixtures on individual organisms, populations and ecosystems, as well as methods of estimating these effects</p>	
<p>Course contents</p> <p>A. Lecture issues</p> <p>A.1. Pollution and their fate in ecosystems</p> <p>A.2. Toxicokinetic profile of a substance (absorption, distribution, metabolism, elimination)</p> <p>A.3. Impact of pollution on organisms (biochemical and physiological effects of pollution)</p> <p>A.4. Ecological effects of pollution (at population and ecosystem level)</p> <p>A.5. Methods for assessing the toxic effect of a compound on organisms</p> <p>A.6. Methods for assessing the harmful effects of pollution on the environment</p> <p>A.7. Ethics in toxicological studies</p> <p>B. Laboratory issues</p> <p>B.1. Experimental methods for assessing the toxic effects of compounds and their mixtures on living organisms according to OECD procedures.</p> <p>B.2. Dose-effect relationship, determination of IC50, EC50, LC50, LD50, LOEC, NOEC</p>	
<p>Bibliography of literature</p> <p>A. Literature required to pass the course</p> <p>A.1. Literature used during classes:</p> <p>Walker C.H., Hopkin S.P., Sibly R.M., Peakall D.B., 2002. Podstawy Ekotoksykologii, PWN, Warszawa</p> <p>Laskowski R., Migula P., 2004. Ekotoksykologia – od komórki do ekosystemu, Państwowe Wyd. Rolnicze i Leśne, Warszawa</p> <p>A.2. Literature for individual studies:</p> <p>Brandys J., 1999, Toksykologia – wybrane zagadnienia, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków</p> <p>Namieśnik J., Jaśkowski J. , 1995, Zarys ekotoksykologii, EKO-Pharma, Gdańsk</p> <p>Piotrowski J.K., 2006. Podstawy toksykologii. WNT, Warszawa</p>	
<p>The learning outcomes (for the field of study and specialization)</p>	<p>Knowledge</p> <p>Knows the basic conceptual categories and toxicological and ecotoxicological terminology</p> <p>Understands and is able to correctly describe the basic phenomena and biological processes occurring in the body exposed to poisons</p> <p>Can explain the consequences of disorders in the body caused by the toxic effects of compounds</p> <p>Understands the inference based on observation and analysis of collected data obtained in toxicological and ecotoxicological tests</p> <p>Understands and can describe the effects of chemical substances and mixtures on the environment</p> <p>Knows experimental methods for determining the toxicity and ecotoxicity of chemical substances and their mixtures</p> <p>Knows and explains the basic principles of ecotoxicological tests</p> <p>Understands the need to apply the principles of ethics in experimental animal studies</p>
	<p>Skills</p> <p>Searches and understands literature in the field of toxicology and ecotoxicology in Polish</p> <p>Searches for necessary information in online databases, critically assessing resources used; knows scientific journals in the field of ecotoxicology</p> <p>Learns independently, expands knowledge of issues raised during classes, is able to skillfully use available sources of information in the field of ecotoxicology</p> <p>Is able to use current scientific terminology in presenting and discussing problems in the field of toxicology and ecotoxicology</p> <p>Is able to plan and carry out a toxicological or ecotoxicological experiment based on available guidelines</p>

Is able to interpret and discuss the results of toxicological and ecotoxicological experiment obtained

Social competence

Knows the limitations of own knowledge in the field of toxicology and ecotoxicology, understands the need for continuous training and professional development
Is aware of the need to improve qualifications in the field of methods used to assess the harmfulness of chemical compounds on the body and the environment
Understands the need to independently search for information on new substances and their effects on the body and the environment in online databases, scientific literature and popular science magazines
Is aware of the risks and threats arising from working with harmful compounds
Is aware of the dilemmas associated with carrying out ecotoxicological studies, understands the need for reflection on ethical topics

Contact

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