

Subject card

Subject name and code	Unpredictability of nature - world disasters and cataclysms, PG_00121383						
Field of study	Chemistry						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2027/2028		
Education level	Bachelor's studies		Subject group		Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	6		ECTS credits		1.0		
Learning profile	academic		Assessment form				
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Jolanta Kumirska				
	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						
	Additional information: Lecture with multimedia presentation						
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		2.0		8.0	25
Subject objectives	The aim of the lecture is to introduce students to the subject of natural (abiotic) and anthropogenic causes of extreme natural phenomena. It is devoted to various aspects of dangerous natural phenomena, pointing out the differences and similarities characteristic of different regions of the world. Lecture presents natural disasters as well as industrial disasters and failures.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[CHEML3_W03] Explains the relationship between the structure of matter and its observed properties.		Student knows modern scientific concepts regarding the reduction of the risk of natural disasters.		[SW2] presentation/project/paper/report		
	[CHEML3_W05] Has basic knowledge of the chemical specialisation studied.		Student knows global and local threats resulting from natural and anthropogenic disasters.		[SW2] presentation/project/paper/report		
	[CHEML3_U01] Identifies, analyses and solves problems in the field of broadly understood chemistry on the basis of the acquired knowledge.		Student is able to differentiate the effects of extreme phenomena depending on the region of the world and indicate methods of mitigating these effects		[SU2] presentation/project/paper/report [SU8] observation of student's independent or team work		
Subject contents	Basic concepts and general issues in the field of extreme natural phenomena. Natural disasters: earthquakes, volcanic eruptions, tsunamis, storms, hurricanes, tornadoes and cyclones, floods, landslides, natural fires. Industrial disasters and accidents: industries that are particularly dangerous to the natural environment. Examples of industrial disasters from different parts of the world; consequences for the natural environment, including human health. Countermeasure: actions in the event of occurrence and removal of extreme natural phenomena.						
Prerequisites and co-requisites	lack						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	sum of points from the written assessment covering the scope of material covered during lectures, including an assessment of the student's activity during the lecture (max. 10%)	51.0%	100.0%
Recommended reading	Basic literature	Winchester S. i in.(red.): 2004: Nieujarzmiona planeta. National Geographic, Warszawa. Graniczny M., Mizerski W. 2007. Katastrofy przyrodnicze. Wyd. Nauk. PWN. Warszawa. Zboina J. (red.). 2014. Bezpieczeństwo na lądzie, morzu i w powietrzu w XXI wieku. Wyd. Centrum Naukowo-Badawczego Ochrony Przeciwpóżarowej. Rucińska D., 2012, Ekstremalne zjawiska przyrodnicze a świadomość społeczna. Uniwersytet Warszawski Wydział Geografii i Studiów Regionalnych. Selected scientific articles and reports (in Polish and English).	
	Supplementary literature	Barnier M. 1995. Atlas wielkich zagrożeń. Wyd. Nauk. Techn. Warszawa. McGuire B., Burton P., Kilburn Ch. and Willetts o. , 2004, World Atlas of Natural Hazards, Oxford University Press.	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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