University of Gdańsk

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 2026	Academic year of realisation of subject	2028/2029
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	credit
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_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
[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_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

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.

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="2">lack</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>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%)</td><td>51.0%</td><td>100.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>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 Przeciwpożarowej.

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).</td></tr>
<tr><td>Supplementary literature</td><td>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.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2"></td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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