

1.	Field of study	Environmental Hazard Engineering
2.	Faculty	Faculty of Natural Sciences
3.	Academic year of entry	2023/2024 (winter term), 2024/2025 (winter term)
4.	Level of qualifications/degree	first-cycle studies (in engineering)
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Field hydrological and hydrogeological methods in environmental hazard analysis
Module code		W2-IZ-S1-230
Number of the ECTS credits		1
Language of instruction		Polish
Purpose and description of the content of education		The following topics will be discussed during the field exercises: methodological basics of water phenomena mapping, usefulness of aerial and satellite photos and GIS tools for water phenomena research, research of physical and chemical characteristics of water, study of watercourses, study of lakes and reservoirs, study of natural groundwater outflows. the impact of human activity on water phenomena and hydrographic objects, field methods of determining areas at risk of flooding, field aspects of drought risk analysis, cartographic presentation of field research results. The student learns about the structure, principles of operation of hydrological instruments and acquires the skills to operate them.
List of modules that must be completed before starting this module (if necessary)		not applicable

8.	Learning outcomes of the module			
Code	Description	Learning outcomes of the programme		Level of competenc (scale 1-5)
U01	he conducts observations and performs simple hydrogeological measurements in the field or laboratory in the field of geohazards	U01		5
		U10		5
U02	he is able to cooperate and work in a group, assuming both the role of a leader and a performer	U07		5
		U10		5
		U13		4
W01	has knowledge of mathematics, physics and chemistry necessary to understand the basic hydrogeological phenomena and processes, including those leading to the occurrence of geohazards	W01		5
W02	has basic knowledge of the life cycle of hydrogeological devices, hydrological objects and technical systems related to geohazards	W03		4

9.	Methods of conducting classes		
Code	Category	Name (description)	
b07	Problem-solving methods	Activating methods: a case study	

		a comprehensive description of a phenomenon connected with the selected discipline; reflecting the reality, presenting the 'what', 'where' and 'how' of the phenomenon, i.e., all of its key aspects to be discussed in class; used as a reproduction, presentation, discussion or diagnosis of factors that shape the phenomenon or interact with it; an in-depth qualitative analysis and evaluation of a selected phenomenon
c07	Demonstration methods	Screen presentation a presentation of synthetic image content using computer graphics, e.g., a series of slides or other multimedia forms, usually accompanied by a commentary; typical components of a screen presentation include text organized into bulleted points, charts, images and animations, sometimes sound effects or music; a multimedia illustration of course content presented in the form of a projected image
d01	Programmed learning methods	Working with a computer e.g., Webquest; implementation of educational tasks using electronic and digital devices, computer programs and Internet applications; the academic teacher acts as a consultant; students' work is carried out step by step according to the plan laid own by the person teaching the course and following his instructions, and proceeds towards producing the indicated results within the set deadline
e01	Practical methods	Laboratory exercise / experiment [also conducted as fieldwork] a method of practical application of knowledge; implemented in three stages: the recognition of a problem induced by the task content, the formulation of the problem and the attempt to solve it accompanied by the assessment of the effects; the goal is to acquire skills, abilities and habits, and to consolidate the acquired knowledge so that it becomes operational; the laboratory method assumes greater independence of learners than carrying out an experiment
e05	Practical methods	Internship including professional and individual training; gaining skills and experience in real-life conditions, e.g., in the environment, institution or workplace the student is preparing for by following a specific study programme; training in real working conditions
e09	Practical methods	Plein air session implementation of a creative task in an open-air area, e.g. outside the studio

10. Forms of teaching					
Code	Name	Number of hours	Assessment of the learning outcomes of the module	Learning outcomes of the module	Methods of conducting classes
W2-IZ-S1-230_fs_1	field practice	36	course work	U01, U02, W01, W02	b07, c07, d01, e01, e05, e09

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
a01	Preparation for classes	Search for materials and review activities necessary for class participation reviewing literature, documentation, tools and materials as well as the specifics of the syllabus and the range of activities indicated in it as required for full participation in classes	No
a02	Preparation for classes	Literature reading / analysis of source materials reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class	No
a03	Preparation for classes	Developing practical skills activities involving the repetition, refinement and consolidation of practical skills, including those developed during previous classes or new skills necessary for the implementation of subsequent elements of the curriculum (as preparation for class participation)	Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus	No

		<i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation developing, preparing and assessing the usefulness of tools and materials (e.g. aids, scenarios, research tools, equipment, etc.) to be employed in class or as an aid when preparing for classes	Yes

Information on the details of the module implementation in a given academic year can be found in the syllabus available in the USOS system: <https://usosweb.us.edu.pl>.