

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	Geographic Information System I
Module code	W2-IZ-S1-005
Number of the ECTS credits	4
Language of instruction	Polish
Purpose and description of the content of education	As part of the completion of the Geographic Information Systems (GIS I) module, the student acquires knowledge of available software, the structure of geographic information systems, types of thematic maps in GIS; the numerical terrain model (DEM); sources of errors in GIS and the benefits of using GIS in geohazard analysis. As part of practical exercises, the student acquires skills: data acquisition, raster image registration; creation of vector data models, data visualization; data transformation and coordinate systems; working in selected GIS software packages. During consultations, problems arising during laboratory classes are solved.
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)
U1	the student is able to use geographic information systems to formulate and solve environmental engineering tasks directed at geohazards	U01	3
U2	the student can - when formulating and solving engineering tasks in the field of geohazards - recognize their systemic and non-technical aspects	U10	4
U3	the student is able to use available sources of information on geohazards, including cartographic, electronic sources, and has the ability to correctly infer data from various sources	U03	4
U4	students are able to select and apply GIS tools appropriately on their own or under the guidance of a supervisor in order to solve tasks or perform geohazard expertise	U04	4
W1	the student knows the basic techniques and research tools to analyze the spatial distribution and intensity of phenomena treated as geohazards	W03	3

9. Methods of conducting classes		
Code	Category	Name (description)
d01	Programmed learning methods	Working with a computer

		<i>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</i>
d03	Programmed learning methods	Working with another teaching tool <i>e.g. using websites in any way or according to the rules set by the teacher; or making use of other subject-specific tools</i>

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-S1-005_fs_1	laboratory classes	30	course work	U1, U2, U3, U4, W1	d01, d03

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 <i>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</i>	No
a03	Preparation for classes	Developing practical skills <i>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)</i>	Yes
b01	Consulting the curriculum and the organization of classes	Getting acquainted with the syllabus content <i>reading through the syllabus and getting acquainted with its content</i>	No

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>.