

1.	Field of study	Water Management - Aquamatics
2.	Faculty	Faculty of Natural Sciences
3.	Academic year of entry	2025/2026 (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		Basics of ecology
Module code		W2-GW-AQ-S1-014
Number of the ECTS credits		6
Language of instruction		Polish
Purpose and description of the content of education		<p>The module aims to familiarise the student with contemporary threats to civilisation, particularly those related to water management and the response to them in the form of the assumptions of sustainable development on a global, regional and local scale. The module participant will become familiar with indicators and measures of the implementation of the assumptions of sustainable development. The module will enable you to learn about the diversity and functioning of the natural environment, the relationship between organisms and the environment, the life strategies of plants and animals, ecological factors, biomes and ecosystems. The knowledge and skills acquired will contribute to understanding the functioning of organisms in the natural environment and the need to conserve and protect biodiversity. Based on the information provided during lecture and conversation classes, the student can independently develop an outline of a development strategy for a company or self-government unit, independently identifying environmental problems and related social and economic conditions. He/she will also be prepared to discuss and defend his/her arguments for the implementation of the principles of sustainable development, which he/she will learn during the presentation of an independent study.</p>
List of modules that must be completed before starting this module (if necessary)		[W2-GW-AQ-S1-008] Basics of hydrobiology [W2-GW-AQ-S1-010] Basic of hydrogeology [W2-GW-AQ-S1-009] Basics of hydrology

8.	Learning outcomes of the module			
Code	Description	Learning outcomes of the programme	Level of competenc (scale 1-5)	
W2-GW-AQ-S1-014 _1	Defines ecology as a science, presents the essential scope and research tasks and the characteristics of the natural environment.	GW-AQ1_U01 GW-AQ1_W01	4 4	
W2-GW-AQ-S1-014 _2	Classifies describes, and explains basic concepts used in ecology. Defines the concept of sustainable development and the scope of this concept based on national and international law documents and applied solutions and good practices in practice.	GW-AQ1_U01 GW-AQ1_U03 GW-AQ1_W01	4 4 4	
W2-GW-AQ-S1-014 _3	Understands and explains the concept of sustainable development as a model for the development of civilisation, including management in line with its principles.	GW-AQ1_U03 GW-AQ1_W01	4 4	
W2-GW-AQ-	Identifies environmental, economic and social problems and proposes solutions based on the assumptions of	GW-AQ1_K03	3	

S1-014 _4	sustainable development. Evaluates ecological factors affecting the diversity of organisms and relationships in terrestrial and aquatic environments.	GW-AQ1_U03	3
		GW-AQ1_W01	4
		GW-AQ1_W04	3
W2-GW-AQ-S1-014 _6	Identifies and explains the impacts of human activities on the functioning of terrestrial and aquatic ecosystems. Demonstrates threats and ways to improve the functioning of terrestrial and aquatic ecosystems and methods of ecological research	GW-AQ1_K01	4
		GW-AQ1_K03	4
		GW-AQ1_U02	4
		GW-AQ1_U03	4
		GW-AQ1_W01	4

9. Methods of conducting classes		
Code	Category	Name (description)
a01	Lecture methods / expository methods	Formal lecture/ course-related lecture <i>a systematic course of study involving a synthetic presentation of an academic discipline; its implementation assumes a passive reception of the information provided</i>
b04	Problem-solving methods	Activating method – discussion / debate <i>an exchange of views supported by substantive arguments leading to a clash of different views, a compromise or the identification of common positions; it proceeds according to previously agreed-upon rules regarding the time, manner and turn-taking as well as the principles of civil discourse; a discussion is not a competition but aims at finding the best solutions or presenting different points of view; its varieties include brainstorming, Oxford-style debate, panel discussion, decision tree, conference discussion; a debate is an orderly dispute between supporters and opponents of a viewpoint, usually specialists in the field or pre-selected representatives of a group dealing with a common problem</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>
e01	Practical methods	Laboratory exercise / experiment <i>[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</i>
e06	Practical methods	Observation <i>also conducted as fieldwork; a method of watching phenomena, objects or people in a systematic/planned way in order to gain knowledge about them; perceptual separation of elements of a model action as an element of learning through imitation; a complex system of cognition based on sensory experiences</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-GW-AQ_014_fs 1	lecture	15	exam	W2-GW-AQ-S1-014_1, W2-GW-AQ-S1-014_2, W2-GW-AQ-S1-014_3, W2-GW-AQ-S1-014_4	a01
W2-GW-AQ_014_fs 2	laboratory classes	30	course work	W2-GW-AQ-S1-014_4, W2-GW-AQ-S1-014_6	b04, d03, e01, e06

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
a02	Preparation for classes	Literature reading / analysis of source materials <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	No
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>	Yes
b02	Consulting the curriculum and the organization of classes	Verification / adjustment / discussion of syllabus provisions <i>consulting the content of the syllabus, possibly in the presence of the year tutor or members of the class group, and, if necessary, reassessing the provisions concerning special conditions for class participation, e.g., space and time requirements, technical and other requirements, including conditions for participation in classes outside the walls of the university, classes organized in blocks, organized online, etc.</i>	Yes
c01	Preparation for verification of learning outcomes	Determining the stages of task implementation contributing to the verification of learning outcomes <i>devising a task implementation strategy embracing the division of content, the range of activities, implementation time and/or the method(s) of obtaining the necessary materials and tools, etc.</i>	Yes
c02	Preparation for verification of learning outcomes	Studying the literature used in and the materials produced in class <i>exploring the studied content, inquiring, considering, assimilating, interpreting it, or organizing knowledge obtained from the literature, documentation, instructions, scenarios, etc., used in class as well as from the notes or other materials/artifacts made in class</i>	No
d01	Consulting the results of the verification of learning outcomes	Analysis of the corrective feedback provided by the academic teacher on the results of the verification of learning outcomes <i>reading through the academic teacher's comments, assessments and opinions on the implementation of the task aimed at checking the level of the achieved learning outcomes</i>	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>.