1.	**Field of study**	**Aquamatics - Interdisciplinary Management of Water Environments**
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	**Engineering project 2**
Module code	W2-AQ-S1-027
Number of the ECTS credits	2
Language of instruction	Polish
Purpose and description of the content of education	Student nabywa umiejętności przygotowania i realizacji indywidualnego projektu badawczego. Studenci na podstawie doświadczeń zdobytych w trakcie studiów między innymi w wyniku realizacji modułu Projekt1 przygotowuje indywidualny projekt inżynierski. Kierownikiem projektu jest student, który przygotowuje opis/założenia projektu, tworzy zespół projektowy, przygotowuje kosztorys i harmonogram realizacji projektu. Efektem realizacji projektu jest praca inżynierska. Studenci angażują do realizacji działań technicznych w projektach innych studentów o wymaganych kompetencjach na przykład studentów innych roczników aquamatyki. Realizacja projektów badawczych – nauka zarządzania projektem, nauka pracy zespołowej/zarządzania przez praktykę. Zaproponowane przez studenta działania umożliwiają rozwiązanie postawionego w pracy inżynierskiej problemu oraz uzyskanie na tej podstawie przedstawionych w rozprawie inżynierskiej wyników projektu uzyskuje dopuszczenia do obrony pracy inżynierskiej.
List of modules that must be completed before starting this module (if necessary)	[W2-AQ-S1-021] GIS 1 [W2-AQ-S1-015] Water status and resources monitoring [W2-AQ-S1-018] Basics of chemical analytics [W2-AQ-S1-023] Basics of data analysis [W2-AQ-S1-012] Basics of chemistry [W2-AQ-S1-014] Basics of ecology [W2-AQ-S1-011] Basics of engineering geology [W2-AQ-S1-008] Basics of hydrobiology [W2-AQ-S1-010] Basic of hydrogeology [W2-AQ-S1-009] Basics of hydrology [W2-AQ-S1-025] Basics of hydrotechnics [W2-AQ-S1-007] Basics of computer science and network security [W2-AQ-S1-005] Basics of mathematics and statistics 1 [W2-AQ-S1-016] Basics of meteorology and climatology [W2-AQ-S1-017] Basics of aquatic microbiology [W2-AQ-S1-024] Basics of environmental protection [W2-AQ-S1-045] Basics of hydrogeology - field classes [W2-AQ-S1-046] Basics of hydrology - field classes

8. Learning outcomes of the module

Code	Description	Learning outcomes of the programme	Level of competenc (scale 1-5)
W2-AQ-S1-027 _1	Potrafi sformułować problem badawczy i zaproponować sposób jego rozwiązania.	AQ1_K01 AQ1_U01 AQ1_W01	5 5 5
W2-AQ-S1-027 _2	Potrafi zaplanować badania i przeprowadzić je zgodnie z zasadami zarzadzania projektami.	AQ1_U01 AQ1_U02 AQ1_U03	3 3 3
W2-AQ-S1-027 _3	Potrafi stworzyć zespół badawczy do realizacji zaplanowanych zadań.	AQ1_K04 AQ1_U10	3 3
W2-AQ-S1-027 _4	Potrafi samodzielnie wykorzystać poznane narzędzia badawcze.	AQ1_W01 AQ1_W02	2 2
W2-AQ-S1-027 _5	Potrafi opracować wyniki badań, potrafi wyciągnąć wnioski na podstawie uzyskanych wyników i zgodnie z obowiązującą wiedzą.	AQ1_K01 AQ1_U01 AQ1_U02 AQ1_W01 AQ1_W02	2 2 2 2 2

9. Methods of conducting classes

Code	Category	Name (description)
b10	Problem-solving methods	SWOT analysis *a method of analyzing a phenomenon/action/work of an institution, employed to organize information and solve problems; applied in strategic planning, project implementation or solving a business or organizational problem; a universal tool to be used in the initial stage of a strategic analysis which involves sorting information about a problem into four categories: strengths and weaknesses, opportunities and threats; SWOT analysis makes it possible to determine the factors in favour of a project and its chances for success, as well as eliminating or reducing negative factors and threats to the project at the stage of early diagnosis*
e04	Practical methods	Project scheduling *proceeding according to the steps proposed within a specific methodology for the completion of a task; e.g., identifying project objectives, determining the result, identifying strengths, limitations, opportunities and threats (SWOT), establishing a schedule of activities, assessing resources, establishing an implementation plan; the initial diagnosis; the reassessment of assumptions; the process of preparing the practical implementation of a project*

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-AQ-S1 _027_fs _1	practical classes	30	course work	W2-AQ-S1-027 _1, W2-AQ-S1-027 _2, W2-AQ-S1-027 _3,	b10, e04

				W2-AQ-S1-027 _4, W2-AQ-S1-027 _5	

11.	The student's work, apart from participation in classes, includes in particular:		
Code	**Category**	**Name (description)**	**Is it part of the BUNA?**
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus *agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation*	No
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*	No
c01	Preparation for verification of learning outcomes	Determining the stages of task implementation contributing to the verification of learning outcomes *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.*	No
c02	Preparation for verification of learning outcomes	Studying the literature used in and the materials produced in class *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*	No
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion *a set of activities aimed at performing an assigned task, to be executed out of class, as an obligatory phase/element of the verification of the learning outcomes assigned to the course*	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 *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*	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.